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Association of Medical Officers of Asylums and Hospitals for the Insane (London, England), Medico-psychological Association of ...

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"In adopting our title of the *Journal of Mental Science, published by authority of the Medico-Psychological Association*, we profess that we cultivate in our pages mental science of a particular kind, namely, such mental science as appertains to medical men who are engaged in the treatment of the insane. But it has been objected that the term mental science is inapplicable, and that the term mental physiology or mental pathology, or psychology, or psychiatry (a term much affected by our German brethren), would have been more correct and appropriate; and that, moreover, we do not deal in mental science, which is properly the sphere of the aspiring metaphysical intellect. If mental science is strictly synonymous with metaphysics, these objections are certainly valid; for although we do not eschew metaphysical discussion, the aim of this JOURNAL is certainly bent upon more attainable objects than the pursuit of those recondite inquiries which have occupied the most ambitious intellects from the time of Plato to the present, with so much labour and so little result. 'But while we admit that metaphysics may be called one department of mental science, we maintain that mental physiology and mental pathology are also mental science under a different aspect. While metaphysics may be called speculative mental science, mental physiology and pathology, with their vast range of inquiry into insanity, education, crime, and all things which tend to preserve mental health, or to produce mental disease, are not less questions of mental science in its practical, that is in its sociological point of view. If it were not unjust to high mathematics to compare it in any way with abstruse metaphysics, it would illustrate our meaning to say that our practical mental science would fairly bear the same relation to the mental science of the metaphysicians as applied mathematics bears to the pure science. In both instances the aim of the pure science is the attainment of abstract truth; its utility, however, frequently going no further than to serve as a gymnasium for the intellect. In both instances the mixed science aims at, and, to a certain extent, attains immediate practical results of the greatest utility to the welfare of mankind; we therefore maintain that our JOURNAL is not inaptly called the *Journal of Mental Science*, although the science may only attempt to deal with sociological and medical inquiries, relating either to the preservation of the health of the mind or to the amelioration or cure of its diseases; and although not soaring to the height of abstruse metaphysics, we only aim at such metaphysical knowledge as may be available to our purposes, as the mechanician uses the formularies of mathematics. This is our view of the kind of mental science which physicians engaged in the grave responsibility of caring for the mental health of their fellow-men may, in all modesty, pretend to cultivate; and while we cannot doubt that all additions to our certain knowledge in the speculative department of the science will be great gain, the necessities of duty and of danger must ever compel us to pursue that knowledge which is to be obtained in the practical departments of science with the earnestness of real workmen. The captain of a ship would be none the worse for being well acquainted with the higher branches of astronomical science, but it is the practical part of that science as it is applicable to navigation which he is compelled to study."—*Sir J. C. Bucknill, M.D., F.R.S.*

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1874. T. L. Rogers, M.D., County Asylum, Rainhill.

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1883. W. Orange, M.D., State Criminal Lunatic Asylum, Broadmoor.
1884. Henry Rayner, M.D., County Asylum, Hanwell.
1885. J. A. Eames, M.D., District Asylum, Cork.
1886. Geo. H. Savage, M.D., Bethlem Royal Hospital.
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1888. T. S. Clouston, M.D., Royal Edinburgh Asylum.
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1900. Fletcher Beach, M.B., 79, Wimpole Street, W.
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1906. Robert Jones, M.D., Claybury Asylum, Woodford Bridge, Essex.
1907. P. W. MacDonald, County Asylum, Dorchester.

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1896. Allbutt, Sir T. Clifford, K.C.B., M.D., F.R.C.P., Regius Professor of Physic, Univ. Camb., St. Radegund's, Cambridge.

1881. Benedikt, Prof. M., Franciskaner Platz 5, Vienna.

1907. Bianchi, Prof. Leonardo, Manicomio Provinciale di Napoli. (*Corr. Mem.*, 1896.)

1900. Blumer, G. Alder, M.D., L.R.C.P.Edin., Butler Hospital, Providence, U.S.A. (*Ord. Mem.*, 1890.)

1900. Bresler, Johannes, M.D. (*Corr. Mem.*, 1896.)

1881. Brosius, Dr., Bendorf-Sayn, near Coblenz, Germany.

1876. Browne, Sir J. Crichton-, M.D.Edin., F.R.S., Lord Chancellor's Visitor, New Law Courts, Strand, W.C. (PRESIDENT, 1878.)

1902. Brush, Edward N., M.D., Sheppard and Enoch Pratt Hospital, Towson, Maryland, U.S.A.

1887. Chapin, John B., M.D., Pennsylvania Hospital for the Insane, Philadelphia, U.S.A.

1902. Coupland, Sidney, M.D., F.R.C.P.Lond., Commissioner in Lunacy, 16, Queen Anne Street, Cavendish Square, London, W.

1872. 1891. Courtenay, E. Maziere, A.B., M.B., C.M.T.C.D., M.D., Inspector of Lunatics in Ireland, Lunacy Office, Dublin Castle. (*Secretary for Ireland*, 1876-87.)

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1879. Echeverria, M. G., M.D.

1895. Ferrier, David, M.D., 34, Cavendish Square, London.

1872. Fraser, John, M.B., C.M., F.R.C.P.E., Commissioner in Lunacy, 13, Heriot Row, Edinburgh.

1898. Hine, George T., F.R.I.B.A., 35, Parliament Street, London, S.W.

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1866. } 1871. } Mitchell, Sir Arthur, M.D.Aberd., LL.D., K.C.B., late Commissioner in Lunacy for Scotland; 34, Drummond Place, Edinburgh.

1897. Morel, M. Jules, M.D., States Lunatic Asylum, Mons, Belgium.

1880. Motet, M., 161, Rue de Charonne, Paris.

1889. Needham, Frederick, M.D.St. And., M.R.C.P.Edin., M.R.C.S.Eng., Commissioner in Lunacy, 19, Campden Hill Square, Kensington, W. (PRESIDENT, 1887.)

1891. O'Farrell, Sir G. P., M.D., M.Ch.Univ. Dubl., Inspector of Lunatics in Ireland, 19, Fitzwilliam Square, Dublin.

1881. Peeters, M., M.D., Gheel, Belgium.

1873. Pitman, Sir Henry A., M.D.Cantab., F.R.C.P.Lond., Registrar of the Royal College of Physicians, Enfield, Middlesex.

1900. Ritti, Ant., Maison Nationale de Charenton, St. Maurice, Paris. (*Corr. Mem.*, 1890.)

1887. Schüle, Heinrich, M.D., Illenau, Baden, Germany.

1881. Tamburini, A., M.D., Reggio-Emilia, Italy.

1901. Toulouse, Dr. Edouard, Directeur du Laboratoire de Psychologie experimental à l'Ecole des Hautes Etudes Paris et Médecin en chef de l'Asile de Villejuif, Seine, France.

1904. Tuke, Sir John Batty, M.D., M.P., 20, Charlotte Square, Edinburgh.

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1897. Näcke, Dr. P., Hubertusberg Asylum, Leipzig.

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1890. Régis, Dr. E., 54, Rue Huguerie, Bordeaux.

1893. Semelaigne, Dr. Réné, Secrétaire des Séances de la Société Médico-Psychologique de Paris, 16, Avenue de Madrid, Neuilly, Seine, France.

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1891. Adair, Thomas Stewart, M.D., C.M.Edin., Storthes Hall Asylum, Kirkburton, near Huddersfield.

1868. Adams, Josiah O., M.D.Durh., F.R.C.S.Eng., Brooke House, Upper Clapton, London.

1886. Agar, S. Hollingsworth, jun., B.A.Cantab., M.R.C.S., Hurst House, Henley-in-Arden.

1901. Ahern, John M., M.B., B.Ch., L.R.C.P.&S.I., Assistant Medical Officer, 18, Walton Park, Liverpool.

1905. Alcock, Benjamin James, M.B.Aberd., Ch.B., James Murray's Royal Asylum, Perth.

1869. Aldridge, Chas., M.D.Aber., L.R.C.P., Plympton House, Plympton, Devon.

1905. Alexander, Edward Henry, M.B., M.R.C.S., Physician Superintendent, Ashbourne Hall Asylum, Dunedin, New Zealand.

1899. Alexander, Hugh de Maine, M.D., Medical Superintendent, Aberdeen City District Asylum, Kingseat, Newmachar, Aberdeen.

1890. Alexander, Robert Reid, M.D.Aber., 31, Royal Parade, Eastbourne.

1905. Allen, Robert George, L.R.C.P.&S.I., The Rectory, Little Bytham, Grantham.

1882. Alliott, A. J., M.D., The Vine, Sevenoaks.

1899. Allmann, Dorah Elizabetb, M.B., B.Ch., B.A.O.R.U.I., Assistant Medical Officer, District Asylum, Armagh.

1885. Amsden, Geo., M.B., Medical Supt., County Asylum, Brentwood, Essex.

1900. Anderson, John Sewell, M.R.C.S., L.R.C.P., Hull City Asylum, Willerby, near Hull.

1901. Anderson, William C., M.B., C.M., 15, King Street, Dundee, N.B.

1904. Archdale, Mervyn Alex., M.B., B.S.Dur., East Riding Asylum, Beverley, Yorks.

1905. Archdall, Mervyn Thomas, L.S.A.Lond., L.R.C.P.&S.Edin., Brynn-y-Nenadd Hall, Llanfairfechan, N. Wales.

1891. Aveline, Henry T. S., M.R.C.S., L.R.C.P., M.P.C., Medical Superintendent, County Asylum, Cotford, near Taunton, Somerset. (*Hon. Sec. for S.W. Division since* 1905.)

1903. Bailey, William Henry, M.B., M.R.C.S., L.S.A., Featherstone Hall, Southall, Midd.

1894. Baily, Percy J., M.B.Edin., Medical Superintendent, London County Asylum, Hanwell, W.

1906. Baird, Harvey, M.D., Ch.B.Edin., Assistant Medical Officer, London County Asylum, Colney Hatch.

1878. Baker, H. Morton, M.B.Edin., Assistant Medical Officer, Leicester Borough Asylum, Humberstone, Leicester.

1888. Baker, John, M.D., Deputy Superintendent, State Asylum, Broadmoor, Berks.

1904. Barham, Guy Foster, M.B., B.A., B.C., M.R.C.S., L.R.C.P., Senior Assistant Medical Officer, London County Asylum, Long-Grove, Epsom.

1901. Barnett, Horatio, M.B., B.C.Cantab., M.R.C.S., L.R.C.P.Lond., Medical, Superintendent, Stretton House, Church Stretton, Salop.

1878. Barton, James Edward, L.R.C.P.Edin., L.M., M.R.C.S., Medical Superintendent, Surrey County Lunatic Asylum, Brookwood, Woking.

1904. Barton, Samuel J., M.D.Dubl., Physician to the Norfolk and Norwich Hospital, Surrey Street, Norwich.

1901. Baskin, J. Lougheed, L.R.C.P.&S.Edin., L.F.P.S.Glas., Fisherton House, Salisbury.

1902. Baugh, Leonard D. H., M.B., C.M., Gartloch Asylum, Gartcosh, Glasgow, N.B.

1864. Bayley, Joseph, M.R.C.S., Medical Superintendent, St. Andrew's Hospital, Northampton.

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1893. Bayley, Joseph Herbert, M.B., C.M.Edin., Assistant Medical Officer, St. Andrew's Hospital, Northampton.

1907. Bazalgette, Sidney, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Fishponds Asylum, Bristol.

1874. Beach, Fletcher, M.B., F.R.C.P.Lond., formerly Medical Superintendent, Darenth Asylum, Dartford; Winchester House, Kingston Hill, Surrey, and 79, Wimpole Street, W. (*General Secretary*, 1889—1896. PRESIDENT, 1900.)

1892. Beadles, Cecil F., M.R.C.S., L.R.C.P., The Clergy House, Englefield Green, Surrey.

1902. Beale-Browne, Thomas Richard, M.R.C.S.Eng., L.R.C.P.Lond., Medical Staff, South Nigeria, West Africa; Dowdeswell House, Andoversford R.S.O., Glos.

1896. Beamish, George, L.R.C.S.I., L.R.C.P.E., L.M., c/o New Club, 4, Grafton Street, New Bond Street, W.

1899. Beresford, Edwyn H., M.R.C.S. & M.R.C.P.Lond., Medical Superintendent, Tooting Bec Asylum, Tooting, S.W.

1894. Blachford, James Vincent, M.D., B.S.Durham, Medical Superintendent, Bristol Asylum, Fishponds, near Bristol.

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1883. Blair, Robert, M.D., Braefort, Crookston, Paisley.

1901. Blake, Thomas Frederick Hillyer, D.P.H., L.R.C.P.&S.Edin., Isolation Hospital, Norwich.

1857. Blandford, George Fielding, M.D.Oxon., F.R.C.P.Lond., 48, Wimpole Street, W. (PRESIDENT, 1877.)

1897. Blandford, Joseph John Guthrie, B.A., D.P.H.Camb., M.R.C.S.Eng., L.R.C.P.Lond., Senior Assistant Medical Officer, County Asylum, Whittingham, Preston, Lancs.

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1900. Bolton, Joseph Shaw, M.D., B.S., B.Sc.Lond., Senior Assistant Medical Officer, County Asylum, Rainhill, Liverpool.

1892. Bond, Charles Hubert, D.Sc., M.D., Ch.M.Edin., Medical Superintendent, London County Asylum, Long-Grove, Epsom. (*Hon. General Secretary.*)

1877. Bower, David, M.D.Aber., Springfield House, Bedford.

1877. Bowes, John Ireland, M.R.C.S.Eng., L.S.A., Medical Superintendent, County Asylum, Devizes, Wilts.

1893. Bowes, William Henry, M.D.Lond., Assistant Medical Officer, Plymouth Borough Asylum, Ivybridge, Devon.

1900. Bowles, Alfred, M.R.C.S., L.R.C.P., 10, South Cliff, Eastbourne.

1896. Boycott, Arthur N., M.D.Lond., M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, Herts County Asylum, Hill End, St. Albans, Herts. (*Hon. Sec. for S.-E. Division*, 1900-05.)

1898. Boyle, A. Helen A., M.D., 3, Palmeira Terrace, Hove, Brighton.

1883. Boys, A. H., L.R.C.P.Edin., Chequer Lawn, St. Albans.

1891. Braine-Hartnell, George, M. P., L.R.C.P.Lond., M.R.C.S.Eng., Medical Superintendent, County and City Asylum, Powick, Worcester.

1904. Branthwaite, Robert Welsh, M.D. (Inspector under the Inebriates Act), Home Office Chambers, 55, Whitehall, S.W.

1881. Brayn, R., L.R.C.P.Lond., Medical Superintendent, Broadmoor Asylum, Crowthorne, Berks.

1895. Briscoe, John Frederick, M.R.C.S.Eng., Resident Medical Superintendent, Westbrooke House Asylum, Alton, Hants.

1905. Brown, Harry Egerton, M.D., M.P.C., The Asylum, Pretoria, S. Africa.

1904. Brown, Josephine, M.B.Lond., 28, John Street, Bedford Row, W.C.

1893. Bruce, Lewis C., M.D.Edin., Druid Park, Murthly, N.B. (*Hon. Divisional Secretary for Scotland since* 1901.)

* Brushfield, Thomas N., M.D.St. And., The Cliff, Budleigh Salterton, Devon.

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1896. Bubb, William, M.R.C.S., L.R.C.P.Lond., 3, Cloverdale Lawn, Cheltenham.
1892. Bullen, Frederick St. John, M.R.C.S.Eng., 12, Pembroke Road, Clifton, Bristol.
1907. Burpitt, Harry Reginald, M.D.Brux, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Metropolitan Asylum, Darenth, Dartford.
1904. Burrell, Arthur Ambrose, M.B., B.Ch., St. Edmundsbury, Lucan, Co. Dublin.

1891. Caldecott, Charles, M.B., B.S.Lond., M.R.C.S., Medical Superintendent, Earlswood Asylum, Redhill, Surrey.
1889. Callcott, James T., M.D., Medical Superintendent, Borough Asylum, Newcastle-on-Tyne.
1874. Cameron, John, M.D.Edin., Medical Superintendent, Argyll and Bute Asylum, Lochgilphead.
1902. Campariole, Paul Clem, M.B., C.M.Ed., Junior Assistant Medical Officer, County Asylum, Melton, Suffolk.
1894. Campbell, Alfred Walter, M.D.Edin., Macquarie Chambers, 183, Macquarie Street, Sydney, New South Wales.
1880. Campbell, Patrick E., M.B., C.M., Medical Superintendent, District Asylum, Caterham.
1897. Campbell, Robert Brown, M.B., C.M.Edin., Medical Superintendent, Inverness District Asylum, Inverness.
1897. Cappe, Herbert Nelson, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Surrey County Asylum, Brookwood.
1905. Carre, Henry, L.R.C.P., L.M., Woodilee Asylum, Lenzie, Glasgow.
1891. Carswell, John, L.R.C.P.Edin., L.F.P.S.Glasg., Certifying Medical Officer, Barony Parish, 5, Royal Crescent, Glasgow.
1896. Cashman, James P., M.B., B.Ch., B.A.O.Royal Univ. Irel., Assistant Medical Officer, Cork District Asylum.
1874. Cassidy, D. M., M.D., C.M.McGill Coll., Montreal, D.Sc. (Public Health) Edin., F.R.C.S.Edin., Medical Superintendent, County Asylum, Lancaster.
1888. Chambers, James, M.A., M.D., The Priory, Roehampton. (*Co-Editor of Journal since* 1905, *Assistant Editor* 1900-05.)
1865. Chapman, Thomas Algernon, M.D.Glas., L.R.C.S.Edin., Betula, Reigate.
1907. Chislett, Charles G. A., M.B., Ch.B.Glasgow, Second Assistant Medical Officer, Woodilee Asylum, Lenzie.
1880. Christie, J. W. Stirling, L.R.C.P.Edin., Medical Superintendent, County Asylum, Stafford.
1878. Clapham, Wm. Crochley S., M.D., F.R.C.P.Ed., The Five Gables, Mayfield, Sussex. (*Hon. Sec. N. and M. Division*, 1897—1901.)
1907. Clarke, Geoffrey, M.D.Lond., Senior Assistant Medical Officer, London County Asylum, Long-Grove, Epsom.
1879. Clarke, Henry, M.D.Durh., L.R.C.P.Lond., H.M. Prison, Wakefield.
1907. Clarke, Sidney Herbert, M.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, County Asylum, Leicester.
1907. Clarkson, Robert Durward, M.D., B.Sc., M.R.C.P.Edin., Medical Officer, Scottish National Institution for Education of Imbecile Children at Larbert.
1901. Cleland, William Lennox, M.B., B.Ch.Edin., Park Side, Adelaide, South Australia.
1862. Clouston, T. S., M.D., LL.D.Edin., F.R.C.P., F.R.S.E., Physician Superintendent, Royal Asylum, Morningside, Edinburgh. (*Editor of Journal*, 1873—1881.) (President, 1888.)
1900. Coffey, Patrick, L.R.C.P.&S.I., District Asylum, Maryborough, Queen's Co., Ireland.
1892. Cole, Robert Henry, M.D.Lond., M.R.C.P.Lond., 25, Upper Berkeley Street, W.
1900. Cole, Sydney John, M.A., M.D., B.Ch.Oxon., Senior Assistant Medical Officer, Wilts County Asylum, Devizes.
1906. Collen, Edward Victor, M.D., B.Ch., B.A.O.Dubl., Killycomain, Portadown, Ireland.

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1906. Collier, Walter Edgar, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Kent County Asylum, Maidstone.

1903. Collins, Michael Abdy, M.B., B.S., M.R.C.S. & P.Lond., London County Asylum, Bexley, Kent.

1888. Cones, John A., M.R.C.S., 2, Portland Place, Kemp Town, Brighton.

1895. Conry, John, M.D.Aber., Fort Beaufort Asylum, South Africa.

1878. Cooke, Edward Marriott, M.D., M.R.C.S.Eng., Commissioner in Lunacy, 69, Onslow Square, S.W.

1899. Cooke, J. A., M.R.C.S., L.R.C.P., Medical Officer and Co-Licensee, Tue Brook Villa, near Liverpool.

1903. Cormac, Harry Dove, M.B., B.S.Madras, Parkside Asylum, Macclesfield.

1891. Corner, Harry, M.D.Lond., M.R.C.S., L.R.C.P., M.P.C., 37, Harley Street, W.

1905. Cotter, James, L.R.C.P.&S.E., L.F.P.S.Glas., Down District Asylum, Downpatrick.

1897. Cotton, William, M.A., M.D.Edin., D.P.H.Cantab., 231, Gloucester Road, Bishopston, Bristol.

1893. Cowen, Thomas Philip, M.D., B.S.Lond., Assistant Medical Officer, County Asylum, Lancaster.

1884. Cox, L. F., M.R.C.S., Medical Superintendent, County Asylum, Denbigh.

1893. Craig, Maurice, M.A., M.D., B.C.Cantab., F.R.C.P.Lond., Senior Assistant Medical Officer, Bethlem Royal Hospital, Southwark.

1904. Crawford, William Thomson, M.B.Lond., M.R.C.S., L.R.C.P., East Sussex Asylum, Hellingly, Sussex.

1906. Creighton, John Alexander, M.B., C.M., West Riding Asylum, Wakefield.

1897. Cribb, Harry Gifford, M.R.C.S.Eng., L.R.C.P.Lond., Senior Assistant Medical Officer, London County Asylum, Cane Hill, Coulsdon, Surrey.

1898. Crookshank, F. G., M.D.Lond., M.R.C.S., L.R.C.P., 27, The Terrace, Barnes, S.W.

1904. Cross, Harold Robert, L.S.A., Storthes Hall Asylum, Kirkburton, near Huddersfield.

1894. Cullinan, Henry M., L.R.C.P.I., L.R.C.S.I., Senior Assistant Medical Officer, Richmond District Asylum, Dublin.

1905. Cummins, Edmund Joseph, L.R.C.P.&S.Edin., Old Rectory House, Low Street, South Essex.

1907. Daniel, Alfred Wilson, B.A., M.D., B.C.Cantab., M.R.C.S., L.R.C.P.Lond. Senior Assistant Medical Officer, London County Asylum, Hanwell, W.

1905. Darbyshire, Harold Stewart C., M.R.C.S.Eng., L.R.C.P.Lond., Grosvenor House, West Ealing, W.

1899. Daunt, Elliot, M.R.C.S., L.R.C.P., D.P.H., The Glen, Bursledon, Hampshire.

1896. Davidson, Andrew, M.D., C.M.Aber., Callan Park, Sydney, N.S.W.

1891. Davis, Arthur N., L.R.C.P., L.R.C.S.Edin., Medical Superintendent, County Asylum, Exminster, Devon.

1894. Dawson, William R., M.D., B.Ch.Dubl., F.R.C.P.I., Medical Superintendent, Farnham House Asylum, Finglas, Dublin. (*Hon. Divisional Sec. for Ireland since* 1902.)

1869. Deas, Peter Maury, M.B. and M.S.Lond., Medical Superintendent, Wonford House, Exeter.

1900. Despard, Rosina C., M.D.Lond., The Dell, Colden Common, Winchester.

1883. De Lisle, Samuel Ernest, L.R.C.P., L.R.C.S.I., Three Counties Asylum, Stotfold, Herts.

1901. De Steiger, Adèle, M.B.Lond., County Asylum, Brentwood, Essex.

1905. Devine, Henry, M.B., B.S., M.R.C.P.Lond., M.R.C.S., London County Asylum, Long-Grove Asylum, Epsom, Surrey.

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1904. Devon, James, L.R.C.P. & S.Edin., 6, Cathedral Square, Glasgow.
1903. Dickson, Thomas Graeme, L.R.C.P. & S.Edin., Assistant Superintendent, Wye House, Buxton.
1905. Dixon, J. Francis, M.D., B.Ch., B.A.O., B.A.Dubl., Three Counties Asylum, Arlesley, Hitchin.
1879. Dodds, William J., M.D., D.Sc.Edin., Valkenburg, Mowbray, near Cape Town, South Africa.
1886. Donaldson, Robert Lockhart, B.A., M.D., B.Ch.Univ. of Dubl., M.P.C., Senior Medical Officer, District Asylum, Monaghan.
1889. Donaldson, William Ireland, B.A., M.D., B.Ch.Univ. of Dubl., Medical Superintendent, County of London Manor Asylum, Epsom, Surrey.
1892. Donelan, John O'Conor, L.R.C.P.I., L.R.C.S.I., M.P.C., Deputy Superintendent, Portrane Asylum, Donabate, co. Dublin.
1899. Donelan, Thomas O'Conor, L.R.C.P. & L.R.C.S.I., Middlesex County Asylum, Napsbury, near St. Albans, Herts.
1202. Douglas, Archibald R., L.R.C.P.&S.Edin., L.F.P.S.Glas., Royal Albert Asylum, Lancaster.
1890. Douglas, William, M.D.Queen's Univ. Irel., M.R.C.S.Eng., Brandfold, Goudhurst.
1905. Dove, Augustus Charles, M.D.Durh., M.B., B.S., "Brightside," Crouch End Hill, N.
1897. Dove, Emily Louisa, M.B.Lond., The School, Durham.
1903. Dow, William Alex., M.D.Durh., M.R.C.S.&P.Lond., H.M. Prison, Lewes.
1905. Drake-Brockman, Henry George, M.R.C.S., L.R.C.P., Middlesborough Asylum, Cleveland, Yorks.
1884. Drapes, Thomas, M.B., Medical Superintendent, District Asylum, Enniscorthy, Ireland.
1905. Drew, Charles Milligan, M.A., M.B., Ch.B.Glas., Lt. R.A.M.C., c/o Messrs. Holt & Co., 3, Whitehall Place, S.W.
1907. Dryden, A. Mitchell, M.B., Ch.B.Edin., Assistant Medical Officer, Woodilee Asylum, Lenzie.
1902. Dudgeon, Herbert Wm., M.D.Durh., M.R.C.S.Eng., L.R.C.P.Lond., Medical Officer to the Egyptian Asylum, Abassieh, Cairo, Egypt.
1899. Dudley, Francis, L.R.C.P.&S.I., Senior Assistant Medical Officer, County Asylum, Bodmin, Cornwall.
1905. Dunlop, James Craufurd, M.D.Edin., L.R.C.P.Edin., M.R.C.S.E., Superintendent of Statistical Department, H.M. General Registry of Births, Marriages, and Deaths, Scotland, 33, Chester Street, Edinburgh.
1903. Dunston, John Thomas, M.D., B.S.Lond., Senior Assistant Medical Officer, The Asylum, Pretoria.
1907. Dwyer, Patrick J., M.B., B.Ch., R.M.I., Clinical Assistant, Richmond District Asylum, Dublin.

1899. Eades, Albert I., L.R.C.P. & S.I., North Riding Asylum, Clifton, Yorks.
1903. Eady, George John, M.D., M.R.C.P.Edin., M.R.C.S.Eng., 78, Drayton Gardens, S. Kensington, S.W.
1874. Eager, Reginald, M.D.Lond., M.R.C.S.Eng., Northwoods, near Bristol.
1906. Eager, Richard, M.B., Ch.B.Aber., Assistant Medical Officer, Devon County Asylum, Exminster.
1873. Eager, Wilson, L.R.C.P.Lond., M.R.C.S.Eng., Northwoods, Winterbourne, Bristol.
1881. Earle, Leslie, M.D.Edin., 108, Gloucester Terrace, Hyde Park, W.
1891. Earls, James Henry, M.D., M.Ch., Moyalton, Fairlawn Park, Chiswick, S.W.
1903. East, Guy Rowland, M.B.Durh., Northumberland County Asylum, Morpeth.
1907. East, Wm. Norwood, M.D., Lond., M.R.C.S., L.R.C.P., Deputy Medical Officer, H.M. Prison, Brixton.

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1895. Easterbrook, Charles C., M.A., M.D., F.R.C.P.Ed., Physician Superintendent, Crichton Royal Institution, Dumfries.
1895. Edgerley, Samuel, M.D., M.A., C.M.Edin., Assistant Medical Officer, West Riding Asylum, Menston, nr. Leeds.
1900. Edridge-Green, Frederic W., M.D., F.R.C.S., Hendon Grove, Hendon.
1897. Edwards, Francis Henry, M.D.Brux., M.R.C.P.Lond., Medical Superintendent, Camberwell House, S.E.
1901. Elgee, Samuel Charles, L.R.C.P., L.R.C.S.I., London County Asylum, Horton, Epsom, Surrey.
1889. Elkins, Frank Ashby, M.D., Medical Superintendent, Metropolitan Asylum, Leavesden.
1898. Ellerton, Henry B., M.R.C.S., L.R.C.P., Leavesden Asylum, King's Langley R.S.O., Herts.
1873. Elliot, G. Stanley, M.R.C.P.Edin., F.R.C.S.Edin., 31, Belvedere Road, Upper Norwood, S.E.
1890. Ellis, William Gilmore, M.D.Brux., Superintendent, Government Asylum, Singapore.
1899. Ellison, F. C., M.D., B.Ch., T.C.D., Assistant Medical Officer, District Asylum, Castlebar.
1901. Erskine, Wm. J. A., M.D., C.M., Senior Assistant Medical Officer, City Asylum, Nottingham.
1895. Eurich, Frederick Wilhelm, M.D., C.M.Edin., 7, Lindum Terrace, Manningham, Bradford, Yorks.
1894. Eustace, Henry Marcus, M.D., B.Ch., B.A.T.C.D. Assistant Physician, Hampstead and Highfield Private Asylum, Glasnevin, Dublin.
1901. Evans, James Wm., M.R.C.S., L.S.A., Lieut.-Col. Indian Medical Service (retired), East India United Service Club, 16, St. James's Square, S.W., and Martinstown, Dorchester.
1897. Everett, William, M.D., Assistant Medical Officer, County Asylum, Chartham Downs, Kent.
1891. Ewan, John Alfred, M.A., M.D., Medical Superintendent, Kesteven County Asylum, Sleaford, Lincs.
1884. Ewart, C. T., M.D., C.M.Aberd., Senior Assistant Medical Officer, Claybury Asylum, Woodford Bridge, Essex.
1906. Ewens, George Francis William, Major I.M.S. Bengal, c/o Messrs. Grindlay & Co., 54, Parliament Street, S.W.
1907. Exley, John, L.R.C.P.I., L.M., M.R.C.S., Medical Officer, H.M. Prison, Grove House, New Wortley, Leeds.

1894. Farquharson, William F., M.D.Edin., Medical Superintendent, Counties Asylum, Garlands, Carlisle.
1907. Farvies, John Stoddart, L.R.C.P., L.R.C.S.Edin., Assistant Medical Officer, Royal Albert Asylum, Lancaster.
1903. Fennell, Charles Henry, M.A., M.D.Oxon, M.R.C.P.Lond., Senior Assistant Medical Officer, East Sussex Asylum, Hellingly, Sussex.
1907. Fergusson, J. J. Harrower, M.B., Ch.B.Edin., Senior Assistant Medical Officer, Fife and Kinross Asylum, Cupar, Fife.
1905. Ferris, William, M.D., B.S.Lond., Middlesex County Asylum, Tooting, S.W.
1397. Fielding, James, M.D., Victoria Univ., Canada, M.R.C.S.Eng., L.R.C.P. Edin., Medical Superintendent, Bethel Hospital, Norwich.
1906. Fielding, Saville James, M.B., B.S.Durh., Bethel Street, Norwich.
1873. Finch, John E. M., M.D., Medical Superintendent, Borough Asylum, Leicester.
1889. Finch, Richard T., B.A., M.B.Cantab., Manor House, Ilminster, Somerset.
1882. Finegan, A. D. O'Connell, L.R.C.P.I., Medical Superintendent, District Asylum, Mullingar, Ireland. (*Hon. Divisional Sec. for Ireland*, 1898–1902.)
1889. Finlay, David, M.D.Glasg., Medical Superintendent, County Asylum, Bridgend, Glamorgan.
1906. Firth, Arthur Harcus, M.A., M.B., B.Ch.Edin., Wadsley Asylum, near Sheffield.

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1903. Fitzgerald, Alexis, L.R.C.P. & S.I., L.M., District Asylum, Waterford.
1894. Fitzgerald, Charles E., M.D., F.R.C.S.I., Surgeon-Oculist to the King in Ireland, 27, Upper Merrion Street, Dublin.
1888. Fitz-Gerald, Gerald C., M.D., B.C.Cantab., M.P.C., Medical Superintendent, Kent County Asylum, Chartham, nr. Canterbury.
1899. Fitzgerald, James J., M.D., B.Ch., B.A.O.R.U.I., Assistant Medical Officer, Cork District Asylum, Carlow.
1901. Fitzgerald, John J., M.D.Brux., L.R.C.P.&S.Edin., Assistant Medical Officer, District Asylum, Cork.
1907. Fleming, Geo. A., L.R.C P.&S.Irel,, Assistant Medical Officer, Camberwell House Asylum, Camberwell.
1904. Fleming, Wilfrid Louis Remi, M.R.C.S., L.R.C.P., Suffolk House, Pirbright, Surrey.
1899. Flemming, Arthur L., M.R.C.S.Eng., L.R.C.P.Lond., 34, Alma Road, Clifton, Bristol.
1894. Fleury, Eleonora Lilian, M.D., B.Ch., R.U.I., Assistant Medical Officer, Richmond Asylum, Dublin.
1902. Forde, Michael J., M.D., M.Ch., R.U.I., Assistant Medical Officer, Richmond Asylum, Donabate, Dublin.
1902. Forster, Hermann Julius, L.R.C.P.I., L.S.A., Assistant Medical Officer, Brighton Borough Asylum, Hayward's Heath.
1906. Forster, R. A., M.B., Ch.B.Aber., Valhewbury Asylum, Mowbray, Cape Town, U.S.A.
1906. Fortune, John, M.B., Ch.B.Edin., Senior Assistant Medical Officer, Devon County Asylum, Exminster.
1861. Fox, Charles H., M.D.St. And., M.R.C.S.Eng., 35, Heriot Row, Edinburgh.
1896. France, Eric, M.B., B.S.Durh., Dutch Chambers, Adderley Street, Cape Town, South Africa.
1881. Fraser, Donald, M.D., 3, Orr Square, Paisley.
1906. Fraser, Thomas Peppé, M.B., Ch.B.Aberd., 93, Beaconsfield Place, Aberdeen.
1901. French, Louis Alexander, M.R.C.S., L.R.C.P., H.M. Prison, Wakefield, Yorks.
1902. Fuller, Lawrence Otway, M.R.C.S.Eng., L.R.C.P.Lond., Eastern Counties Inebriates Reformatory, East Harling, Norfolk.

1906. Gane, Edward Palmer Steward, M.R.C.S.Eng., L.R.C.P.Lond., Borough Asylum, Ryehope, Sunderland.
1904. Garden, W. Sim, M.B., Manston Asylum, W. Riding, Yorks.
1893. Garth, Henry C., M.B., C.M.Edin., 36, Chowringee, Calcutta, India.
1890. Gaudin, Francis Neel, M.R.C.S., L.S.A., M.P.C., Medical Superintendent, The Grove, St. Lawrence, Jersey.
1906. Gavin, Noel John Hay, M.B., Ch.B.Edin., Pathological Department, The University, Manchester.
1885. Gayton, Francis C., M.D., Brookwood Asylum, Woking, Surrey.
1896. Geddes, John W., M.B., C.M.Edin., Medical Superintendent, County Borough Asylum, Berwick Lodge, Middlesbrough, Yorks.
1892. Gemmel, James Francis, M.B.Glasg., Medical Superintendent, County Asylum, Whittingham, Preston.
1904. Gibb, James Alex., M.B., Ch.B., Pitmedden, Udny, Aberdeenshire, N.B.
1899. Gilfillan, Samuel James, M.A., M.B.Edin., Senior Assistant Medical Officer, London County Asylum, Colney Hatch.
1904. Gillespie, Daniel, M.B. (R.U.I.), Wadsley Asylum, near Sheffield.
1897. Gilmour, John Rutherford, M.B., F.R.C.P.Edin., Medical Superintendent, West Riding Asylum, Scalebor Park, Burley-in-Wharfedale, Yorks

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1906. Gilmour, Richard Withers, M.B., B.S.Durh., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, St. Luke's Hospital, E.C.

1878. Glendinning, James, M.D.Glasg., L.R.C.S.Edin., L.M., Medical Superintendent, Joint Counties Asylum, Abergavenny.

1907. Gloag, Alfred M., M.B., Ch.B.Edin., Senior Assistant Physician, Inverness District Asylum, 9, Barnton Terrace, Edinburgh.

1898. Goldie-Scot, Thomas G., M.B., C.M.Edin., M.R.C.S., L.R.C.P., Junior Assistant Physician, Royal Asylum, Gartnavel, Glasgow.

1897. Good, Thomas Saxty, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, County Asylum, Littlemore, Oxford.

1889. Goodall, Edwin, M.D., B.S.Lond., F.R.C.P., Medical Superintendent, City Asylum, Cardiff.

1899. Gordon, James Leslie, M.B., Ch.B., Tooting Bec Asylum, Tooting, London, S.W.

* Gordon, William S., M.A., M.B., T.C.D., District Asylum, Mullingar.

1905. Gordon-Munn, John Gordon, M.D., F.R.S.E., Heigham Hall, Norwich.

1901. Gostwyck, C. H. G., M.B., Ch.B., Stirling District Asylum, Larbert.

1894. Graham, Samuel, L.R.C.P.Lond., Assistant Medical Officer, District Asylum, Antrim.

1888. Graham, Thomas, M.D.Glasg., 3, Garthland Place, Paisley.

1887. Graham, William, M.D., R.U.I., Medical Superintendent, District Lunatic Asylum, Belfast.

1886. Greenlees, T. Duncan, M.D., Fenstanton, Christ Church Road, Streatham Hill, S.W.

1904. Griffin, Ernest Harrison, B.A.Cantab., L.S.A.Lond., Camberwell House, Peckham Road, S.E.

1901. Grills, Galbraith Hamilton, M.D., B.Ch., Assistant Medical Officer, County Asylum, Chester.

1900. Grove, Ernest George, M.R.C.S., L.R.C.P., Bootham Park, York.

1894. Gwynn, Charles Henry, M.D.Edin., co-Licensee, St. Mary's House, Whitchurch, Salop.

1905. Hallett, H. G., M.R.C.S., L.R.C.P.Lond., Darenth Asylum, Dartford, Kent.

1894. Halstead, Harold Cecil, M.D.Durh., Assistant Medical Officer, Peckham House, Peckham.

1903. Hanbury, Langton Fuller, M.R.C.S.Eng., L.R.C.P.Lond., West Ham Borough Asylum, Ilford, Essex.

1902. Hanbury, Saville Waldron, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Banstead, Surrey.

1896. Hanbury, William Reader, M.R.C.S., L.R.C.P., Senior Assistant Medical Officer, West Ham Borough Asylum, Goodmayes, Ilford.

1903. Hankin, Chella Mary, M.B.Durh., Borough Asylum, Portsmouth.

1901. Harding, William, M.D., M.R.C.P.Lond., Medical Superintendent, Northampton County Asylum, Berry Wood, Northampton.

1906. Harman, George James, L.R.C.P.&S.Edin., L.F.P.S.Glasg., Assistant Medical Officer, Chester County Asylum, Chester.

1899. Harmer, W. A., L.S.A., Resident Superintendent and Licensee, Redlands Private Asylum, Tonbridge, Kent.

1904. Harper-Smith, George Hastie, M.R.C.S., L.R.C.P., B.A.Cantab., Claybury, Woodford Bridge, Essex.

1898. Harris-Liston, L., M.D., M.R.C.S., L.R.C.P.Lond., L.S.A., Middleton Hall, Middleton St. George, Co. Durham.

1905. Hart, Bernard, M.B.Lond., M.R.C.S.Eng., Long-Grove Asylum, Epsom, Surrey.

1886. Harvey, Bagenal Crosbie, L.R.C.P., L.R.C.S., Assistant Medical Officer, District Asylum, Clonmel.

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1892. Haslett, William John, M.R.C.S., L.R.C.P., Resident Medical Superintendent, Halliford House, Sunbury-on-Thames.
1891. Havelock, John G., M.D., C.M.Edin., Physician Superintendent, Montrose Royal Asylum.
1890. Hay, Frank, M.B., C.M., Inspector-General of Asylums for New Zealand, Government Buildings, Wellington, New Zealand.
1900. Haynes, Horace E., M.R.C.S., L.S.A., 32, Brunswick Terrace, Hove, Sussex.
1895. Hearder, Frederic P., M.D., C.M., Medical Superintendent, Yorkshire Inebriate Reformatory, Cattal, Whixley, near York.
1905. Hector, George W. K., M.D., L.R.C.P.&S., New Herrington, Co. Dublin.
1903. Heffernan, Patrick, M.B., B.Ch., B.A.O., R.U.I., Rathkenny, Fethard, co. Tipperary.
1905. Henderson, George, M.A., M.B. (Address uncommunicated.)
1885. Henley, Edward W., M.R.C.S., L.R.C.P., Medical Superintendent, County Asylum, Barnwood, Gloucester.
1906. Herbert, Thomas, M.R.C.S.Eng., L.R.C.P., York City Asylum, Fulford, York.
1899. Herbert, William W., M.D., C.M.Edin., North Wales Counties Asylum, Denbigh, North Wales.
1877. Hetherington, Charles E., M.B., Medical Superintendent, District Asylum, Londonderry, Ireland.
1908. Hewitt, David Walker, M.B., B.Ch., R.U.I., Surgeon R.N., H.M.S. Powerful, Australia.
1877. Hewson, R. W., L.R.C.P.Edin., Medical Superintendent, Coton Hill, Stafford.
1902. Higginson, John Wigmore, M.R.C.S., L.R.C.P., Resident Medical Officer, Hayes Park Asylum, Hayes Park, Middlesex.
1882. Hill, H. Gardiner, M.R.C.S., Medical Superintendent, Middlesex County Asylum, Tooting.
1907. Hine, T. Guy Macaulay, M.A., B.C.Cantab., 19, Lower Seymour Street, Portman Square, W.
1905. Hines, Arthur, M.B., County Asylum, Stafford.
1871. Hingston, J. Tregelles, M.R.C.S.Eng., Redcote, St. Mark's Road, Leamington.
1881. Hitchcock, Charles Knight, M.D., Bootham Park, York.
1900. Holländer, Bernard, M.D., M.R.C.S.. L.R.C.P., 35A, Welbeck Street, London, W.
1903. Hopkins, Charles Leighton, M.B., B.C.Cantab., York City Asylum, Fulford, York.
1894. Hotchkis, Robert D., M.A., M.D., Renfrew Asylum, Dykebar, N.B.
1907. Howard, S. Carlisle, M.B., Ch.B.Aberd., Assistant Medical Officer, Perth District Asylum, Murthly.
1900. Hughes, George Osborne, M.D.Virginia, M.R.C.S., L.R.C.P. (Travelling.)
1900. Hughes, Percy T., M.B., Ch.M.Edin., D.P.H.Lond., Medical Superintendent, Worcestershire County Asylum, Barnseley Hall, Bromsgrove.
1904. Hughes, William Stanley, M.R.C.S., L.R.C.P., Claybury Asylum, Woodford, Essex.
1857. Humphry, John, M.R.C.S.Eng., Medical Superintendent, County Asylum, Stone, near Aylesbury, Bucks.
1897. Hunter, David, M.A., M.B., B.C.Cantab., Medical Superintendent, West Ham Borough Asylum, Goodmayes, Ilford, Essex.
1904. Hunter, Percy Douglas, M.R.C.S., L.R.C.P.Lond., East Sussex County Asylum, Hellingly, Sussex.
1905. Hutchinson, Joseph Armstrong, M.D., M.S.Durh., Northallerton, Yorkshire.

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1906. Huxley, Charles Rodney, L.R.C.P.&S.Edin., L.F.P.S.Glas., Kent House Road, New Beckenham, Kent.
1882. Hyslop, James, D.S.O., M.D., Natal Government Asylum, Pietermaritzburg.
1888. Hyslop, Theo. B., M.D., C.M.Edin., M.R.C.P.E., M.P.C., Bethlem Royal Hospital, S.E.

1871. Ireland, William W., M.D.Edin., 1, Victoria Terrace, Musselburgh, N.B.
1906. Irwin, Peter Joseph, L.R.C.P.&S.I., L.M., District Asylum, Limerick.

1905. Jackson, Arthur Molyneux, M.D.Oxon., Medical Superintendent, Notts County Asylum, Radcliffe-on-Trent.
1866. Jackson, J. Hughlings, M.D.St. And., F.R.C.P.Lond., F.R.S., Physician to the Hospital for Epilepsy and Paralysis, &c., 3, Manchester Square, London, W.
1907. Jex-Blake, Bertha, M.B., Ch.B.Edin., Assistant Medical Officer, County and City Asylum, Hereford.
1905. Johnson, Smeeton, M.B.Lond., L.R.C.P., M.R.C.S., Rainhill Asylum, near Liverpool.
1893. Johnston, Gerald Herbert, L.R.C.S. and L.R.C.P.Edin., Brooke House, Upper Clapton, N.
1905. Johnston, Thomas Leonard, L.R.C.P.&S.Edin., L.F.P.S.Glas., Bracebridge Asylum, Lincoln.
1905. Johnstone, George A., M.B., Ch.B.Aberd., Ferndene, Craigleith, Edinburgh, N.B.
1878. Johnstone, J. Carlyle, M.D., C.M., Medical Superintendent, Roxburgh District Asylum, Melrose.
1903. Johnstone, Thomas, M.D.Edin., M.R.C.P.Lond., 32. Park Square, Leeds.
1880. Jones, D. Johnson, M.D.Edin., Medical Superintendent, Banstead Asylum, Surrey.
1866. Jones, Evan, M.R.C.S.Eng., Ty-mawr, Aberdare, Glamorganshire.
1882. Jones, Robert, M.D.Lond., B.S., F.R.C.P., F.R.C.S., Medical Superintendent, London County Asylum, Claybury, Woodford, Essex. (*Gen. Secretary from* 1897 to 1906. PRESIDENT 1906-7.)
1898. Jones, W. Ernest, M.R.C.S.Eng., L.R.C.P.Lond., The Old Treasury Buildings, Spring Street, Melbourne.

1879. Kay, Walter S., M.D., Medical Superintendent, South Yorkshire Asylum, Wadsley, near Sheffield.
1886. Keay, John, M.D., Bangour Village, Uphall, Linlithgowshire.
1899. Keegan, Lawrence Edward, M.D., Medical Superintendent, Lunatic Asylum, St. John's, Newfoundland.
1902. Kelley-Patterson, Wm., M.D., M.Ch., R.U.I., Tod Pedu, South Godstone, Surrey.
1898. Kemp, Norah, M.B., C.M.Glas., The Retreat, York.
1907. Keene, George Henry, M.D. (T.C.D.), Camberwell House, Peckham Road.
1899. Kennedy, Hugh T. J., L.R.C.P.&S.I., L.M., Assistant Medical Officer, District Asylum, Enniscorthy, Wexford.
1902. Kennedy, Patrick Gabriel, L.R.C.P.&S.Edin., L.F.P.S.Glasg., Assistant Medical Officer, London County Asylum, Banstead, Surrey.
1897. Kerr, Hugh, M.A., M.D.Glasg., Assistant Medical Officer, Bucks County Asylum, Stone, Aylesbury, Bucks.
1902. Kerr, Neil Thomson, M.B., C.M.Ed., Medical Superintendent, Lanark District Asylum, Hartwood, Shotts, N.B.
1893. Kershaw, Herbert Warren, M.R.C.S.Eng., L.R.C.P.Lond., Dinsdale Park, near Darlington.
1897. Kidd, Harold Andrew, M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, West Sussex Asylum, Chichester.
1903. King, Frank Raymond, B.A.Cantab., M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, Northumberland House, Finsbury Park, N.

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1897 Kingdon, Wilfred Robert, M.B., B.S.Durh., 160, Goldhawk Road, W.
1905. Kingsbury, William Neave, M.R.C.S., L.R.C.P., 15, Blackheath Rise, Lewisham, S.E.
1903. Kingsford, Arthur Beresford, M.R.C.S., L.R.C.P.Lond., D.P.H.Camb., 19, Upper George Street, Bryanston Square, W.
1902. King-Turner, A. C., M.B., C.M.Edin., The Retreat, Fairford, Gloucestershire.
1899. Kirwan, James St. L., B.A., M.B., B.Ch., B.A.O.Roy. Univ. Irel., Medical Superintendent, District Asylum, Ballinasloe, Ireland.
1903. Kough, Edward Fitzadam, M.B., B.Ch., County Asylum, Gloucester.

1898. Labey, Julius, M.R.C.S., Medical Superintendent, Public Asylum, Jersey.
1902. Langdon-Down, Percival L., M.A., M.B., B.C.Cantab., Dixland, Hampton Wick, Middlesex.
1896. Langdon-Down, Reginald L., M.A., M.B., B.C.Cantab., M.R.C.P.Lond., Normansfield, Hampton Wick.
1902. Laval, Evariste, M.B., C.M.Edin., Langho, nr. Blackburn.
1898. Lavers, Norman, M.D., M.R.C.S., Medical Superintendent, Bailbrook House, Bath.
1899. Law, Charles D., L.R.C.P.&S.Edin., L.F.P.G.S., c/o Manager, Bank of Victoria, 10, King William Street, E.C.
1892. Lawless, George Robert, F.R.C.S.I., Medical Superintendent, District Asylum, Armagh.
1870. Lawrence, Alexander, M.A., M.D., County Asylum, Upton, Chester.
1883. Layton, Henry A., M.R.C.S.Eng., L.R.C.P.Edin., Cornwall County Asylum, Bodmin.
1899. Leeper, Richard R., F.R.C.S.I., Medical Superintendent, St. Patrick's Hospital, Dublin.
1905. Le Fanu, Hugh, M.B., C.M.Aber., 145, Leinster Road, Rathmines, Dublin.
1883. Legge, Richard J., M.D., Medical Superintendent, County Asylum, Mickleover, Derby.
1906. Leggett, William, B.A., M.B., B.Ch.Dubl., Assistant Medical Officer, Kent County Asylum, Maidstone.
1894. Lentaigne, John, B.A., F.R.C.S.I., Medical Visitor of Lunatics to the Court of Chancery, 42, Merrion Square, Dublin.
1899. Lewis, H. Wolseley, M.D.Brux., F.R.C.S.Eng., Medical Superintendent, Kent County Asylum, Barming Heath, Maidstone.
1879. Lewis, William Bevan, M.R.C.S., L.R.C.P., Medical Superinrendent, West Riding Asylum, Wakefield.
1863. Ley, H. Rooke, M.R.C.S.Eng., Beaulieu, Westby Road, Boscombe, Hants.
1859. Lindsay, James Murray, M.D.St.And., F.R.C.S. and F.R.C.P.Edin. 53, Victoria Road, Aldershot. (PRESIDENT, 1893.)
1903. Logan, Thomas Stratford, L.R.C.P.&S.Edin., L.F.P.S.Glas., County of London Epileptic Colony, Ewell, Surrey.
1906. Long, Sydney Herbert, M.D.Cantab., Physician to Norfolk and Norwich Hospital, 37, St. Giles Street, Norwich.
1899. Longworth, Stephen G., L.R.C.P. L.R.C.S.I., County Asylum, Melton, Suffolk.
1898. Lord, John R., M.B., C.M., Medical Superintendent, London County Asylum, Horton, Epsom. (*Assistant Editor of Journal since* 1900.)
1906. Lowry, James Arthur, M.B., B.Ch., B.A.O., R.U.I., Assistant Medical Officer, Middlesex County Asylum, Napsbury.
1904. Lyall, C. H. Gibson, L.R.C.P.&S.Edin., Leicester Borough Asylum, Leicester.
1906. Lyell, John Hepburn, M.D.Glasg., M.B., C.M., Assistant Medical Officer to H.M. Prison, the Royal Infirmary, and Parish Council, Perth, 15, Marshall Place, Perth.

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1872. Lyle, Thomas, M.D.Glasg., 34, Jesmond Road, Newcastle-on-Tyne.

1906. Macarthur, John, M.R.C.S., L.R.C.P.Lond., The Hut, Manor Road, East Molesey.
1899. Macartney, William H. C., L.R.C.P.&S.I., Riverhead House, Sevenoaks.
1880. MacBryan, Henry C., L.R.C.P. & S. Edin., Kingsdown House, Box, Wilts.
1902. M'Carthy, Owen F., L.R.C.P.&S.I., District Lunatic Asylum, Cork, Ireland.
1900. McClintock, John, L.R.C.P. & L.R.C.S.Edin., Resident Medical Superintendent, Grove House, Church Stretton, Salop.
1900. McConaghey, John C., M.B., C.M.Edin., Parkside Asylum, Macclesfield, Cheshire.
1886. McCreery, James Vernon, L.R.C.S.I., Medical Superintendent, "Ormonde," Walpole Street, Kew, Victoria.
1901. MacDonald, James H., M.B., Ch.B.Glasg., Govan District Asylum, Hawkhead, Paisley, N.B.
1907. Macdonald, Peter Horne, M.B., Ch.B.St.Andrews, Pathologist, Gartloch Hospital, Gartcosh.
1884. MacDonald, P. W., M.D., C.M., Medical Superintendent, Dorset County Asylum, Herrison, Dorchester. (*Hon. Sec. S.W. Division* 1894 to 1905.)
1905. MacDonald, William Fraser, M.B., Ch.B.Edin., 18, Buckingham Terrace, Glasgow.
1905. McDougall, Alan, M.D.Vict., M.R.C.S., L.R.C.P.Lond., Medical Director, The David Lewis Colony, Sandle Bridge, near Alderley Edge, Cheshire.
1906. McDowall, Colin Francis Frederick, M.B., B.S.Durh., Assistant Medical Officer, City Asylum, Newcastle.
1870. McDowall, Thomas W., M.D.Edin., L.R.C.S., Medical Superintendent, Northumberland County Asylum, Morpeth. (PRESIDENT, 1897–8.)
1893. Macevoy, Henry John, M.D., B.Sc.Lond., M.P.C., 41, Buckley Road, Brondesbury, London, N.W.
1895. Macfarlane, Neil M., M.D.Aber., Medical Superintendent, Government Hospital, Thlotse Heights, Leribe, Basutoland, South Africa.
1883. Macfarlane, W. H., M.B. and Ch.B.Univ. of Melbourne, Medical Superintendent, Hospital for the Insane, New Norfolk, Tasmania.
1902. McGregor, John, M.B., Ch.B.Edin., Assistant Medical Officer, County Asylum, Bridgend, Glam.
1906. MacIlraith, Alex. Robert MacIntyre, Brownlie Place, Cathcart, Renfrewshire.
1905. MacIlraith, W. MacLaren, L.R.C.P. & S.Edin., L.F.P.S.Glasg., L.D.S.R.C.S.Edin., Assistant Medical Officer, Brownlie Place, Cathcart, N.B.
1899. McKelvey, Alexander Niel, L.&M.P.C.P.&S.I., The Asylum, Auckland, New Zealand.
1891. Mackenzie, Henry J., M.B., C.M.Edin., M.P.C., Assistant Medical Officer, The Retreat, York.
1903. Mackenzie, Theodore Charles, M.B., Ch.B.Edin., Royal Asylum, Aberdeen.
1899. Mackeown, William John, A.B., M.B., B.A., O.R.U.I., A.M.O., County Asylum, Fareham, Hants.
1907. MacLeod, John A., M.B., Ch.B., Assistant Medical Officer, Lochmore, Lairg, Sutherlandshire.
1901. Macleod, Neil, M.D., C.M.Edin., H.B.M. Consular Surgeon and Surgeon to the General Hospital, Shanghai, China, 12, Whangpoo Road, Shanghai.
1904. Macnamara, Eric Danvers, M.A., M.B., 9, Welbeck Street, W.
1898. Macnaughton, George W. F., M.D., F.R.C.S., 33, Lower Belgrave Street, Eaton Square, London, S.W.
1882. McNaughton, John, M.D., Medical Superintendent, Criminal Lunatic Asylum, Perth.
1882. Macphail, S. Rutherford, M.D.Edin., Derby Borough Asylum, Rowditch, Derby.

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1896. Macpherson, Charles, M.D.Glas., Deputy Commissioner in Lunacy, 193, Bruntsfield Place, Edinburgh.

1886. Macpherson, John, M.D., F.R.C.P., 8, Darnaway Street, Edinburgh.

1901. McRae, G. Douglas, M.B., C.M.Edin., Medical Superintendent, District Asylum, Ayr, N.B.

1902. Macrae, Kenneth Duncan Cameron, M.B., Ch.B.Edin., Lynwood, Murrayfield, Edinburgh.

1894. McWilliam, Alexander, M.A., M.B., C.M.Aber., Waterval, Odiham, Winchfield, Hants.

1907. Meek, Andrew Alexander Robertson, M.B., Ch.B. Glas. Univ., Assistant Physician, Gartloch Hospital, Gartloch.

1865. Manning, Henry J., B.A.Lond., M.R.C.S., Laverstock House, Salisbury.

1900. Manning, Herbert C., M.R.C.S., L.R.C.P., County Asylum, Cambridge.

1903. Marnan, John, M.B., B.Ch., Fishponds Asylum, Bristol.

1896. Marr, Hamilton C., M.D.Glasg.Univ., Medical Superintendent, Woodilee Asylum, Lenzie.

1897. Marshall, John, M.B., C.M.Glasg., 2, Hartingdon Gardens, Edinburgh.

1905. Marshall, Robert Macnab, M.B., Ch.B., Oaklands, 21, Maxmill Drive, Pollokshields, Glasgow.

1896. Martin, James Charles, L.R.C.S.I., L.M., L.R.C.P., Assistant Medical Officer, District Asylum, Letterkenny, Donegal.

1907. Martin, Mary Edith, L.R.C.P.&S.Edin., L.F.G.S.Glas., L.S.A.Lond., Fenstanton, Christchurch Road, Streatham Hill, S.W.

1904. May, George Francis, M.D., C.M. (McGill), L.S.A., Winterton Asylum, Ferryhill, Durham.

1890. Menzies, William F., M.D., B.Sc.Edin., Medical Superintendent, Stafford County Asylum, Cheddleton, near Leek.

1891. Mercier, Charles A., M.D.Lond., F.R.C.P., F.R.C.S.Eng., Lecturer on Insanity, Westminster Hospital; Flower House, Catford, S.E. (President-elect.)

1877. Merson, John, M.A., M.D.Aber., Medical Superintendent, Borough Asylum, Hull.

1871. Mickle, William Julius, M.D., F.R.C.P.Lond. (Address uncommunicated.) (President, 1896–7.)

1893. Middlemass, James, M.D., C.M., B.Sc.Edin., F.R.C.P., Medical Superintendent, Borough Asylum, Ryhope, Sunderland.

1898. Middlemist, George Edwyn, M.B., Keelby, Brocklesby, Lincs.

1883. Miles, George E., M.R.C.P., &c., Medical Superintendent, Hospital for the Insane, Rydalmere, New South Wales.

1887. Miller, Alfred, M.B. and B.C.Dubl., Medical Superintendent, Hatton Asylum, Warwick. (*Registrar since* 1902.)

1904. Miller, James Webster, The County Asylum, Herrison, Dorchester.

1893. Mills, John, M.B., B.Ch., and Diploma in Mental Diseases, R.U.I., District Asylum, Ballinasloe, Ireland.

1881. Mitchell, Richard B., M.D., Medical Supt., Midlothian District Asylum.

1878. Moody, James M., M.R.C.S.Eng., L.R.C.P.&L.M.Edin., Medical Superintendent, County Asylum, Cane Hill, Coulsdon, Surrey.

1885. Moore, Edw. E., M.D.Dubl., M.P.C., Medical Superintendent, District Asylum, Letterkenny, Ireland.

1906. Moore, Francis Joseph, L.R.C.P.&S.Irel., Ivy House, Ardee, Co. Louth.

1899. Moore, Wm. D., M.D., M.Ch., Medical Superintendent, Holloway Sanatorium, Virginia Water, Surrey.

1892. Morrison, Cuthbert S., L.R.C.P. and L.R.C.S.Edin., Medical Superintendent, County and City Asylum, Burghill, Hereford.

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1896. Morton, W. B., M.D.Lond., Assistant Medical Officer, Brislington House, Bristol.
1896. Mott, F. W., M.D., B.Sc., B.S., F.R.C.P.Lond., F.R.S., 25, Nottingham Place, London, W.
1896. Mould, Gilbert E., M.R.C.S., L.R.C.P.Lond., The Grange, Rotherham, Yorks.
1862. Mould, George W., M.R.C.S.Eng., Oak Mount, Colvin Bay, N. Wales. (PRESIDENT, 1880.)
1897. Mould, Philip G., M.R.C.S.Eng., L.R.C.P.Lond., Overdale, Whitefield, near Manchester.
1907. Mules, Bertha Mary, M.B., B.S.Durh., Court Hall, Kenton, S. Devon.
1897. Mumby, Bonner Harris, M.D.Aber., D.P.H.Cantab., Medical Superintendent, Borough Asylum, Portsmouth.
1893. Murdoch, James William Aitken, M.B., C.M.Glasg., Medical Superintendent, Berks County Asylum, Wallingford.
1900. Murphy, Jerome J., M.R.C.S., L.R.C.P.Lond., Banstead Asylum, Sutton, Surrey.
1878. Murray, Henry G., L.R.C.P.I., L.M., L.R.C.S.I., Assistant Medical Officer, Prestwich Asylum, Manchester.
1905. Murrell, Christine Mary, M.D.Lond., B.S., Royal Free Hospital, 86, Porchester Terrace, Hyde Park, W.

1903. Navarra, Norman, M.R.C.S., L.R.C.P., 51, Upper Bedford Place, W.C.
1880. Neil, James, M.D., M.P.C., Medical Superintendent, Warneford Asylum, Oxford.
1903. Nelis, William F., M.D., Newport Borough Asylum, Caerleon, Mon.
1875. Newington, Alexander, M.B.Camb., M.R.C.S.Eng., Woodlands, Ticehurst.
1873. Newington, H. Hayes, F.R.C.P.Edin., M.R.C.S.Eng., The Gables, Ticehurst, Sussex. (PRESIDENT, 1889.) (*Treasurer.*)
1869. Nicolson, David, C.B., M.D., C.M.Aber., M.R.C.P.Edin., F.S.A.Scot., 201, Royal Courts of Justice, Strand, W.C. (PRESIDENT, 1895–6.)
1893. Nobbs, Athelstane, M.D., C.M.Edin., Layton House, Upper Richmond Road, S.W., and 337, Queen's Road, Battersea Park.
1888. Nolan, Michael J., L.R.C.P.I., M.P.C., Medical Superintendent, District Asylum, Downpatrick.
1880. Norman, Conolly, F.R.C.P.I., M.D.Dubl., S. Dymphna's, North Circular Road, Dublin, Medical Superintendent, Richmond District Asylum, Dublin, Ireland. (*Hon. Secretary for Ireland,* 1887 — 1894.) (PRESIDENT, 1894–5.) (*Co-Editor of Journal since* 1895.)

1885. Oakshott, James A., M.D., Medical Superintendent, District Asylum, Waterford, Ireland.
1906. O'Brien, Mary, L.S.A., 7, Wimborne Gardens, W. Ealing, W.
1903. O'Doherty, Patrick, B.A. and M.B.Irel., District Asylum, Omagh.
1904. O'Downey, Augustine Francis, L.R.C.P. & S. Edin., Salop and Montgomery County Asylum, Bicton Heath, nr. Shrewsbury.
1901. Ogilvy, David, B.A., M.D., B.Ch., L.M.Dub., Senior Assistant Medical Officer, London County Asylum, Horton, nr. Epsom, Surrey.
1892. O'Mara, Francis, L.R.C.P.&S.I., District Asylum, Ennis, Ireland.
1886. O'Neill, Edward D., M.R.C.P.I., Medical Superintendent, The Asylum, Limerick.
1868. Orange, William, M.D.Heidelb., F.R.C.P.Lond., C.B., Oakhurst, Godalming, Surrey. (PRESIDENT, 1883.)
1907. O'Reilly, Arthur Edward, L.R.C.S. & P.I., L.M., Assistant Medical Officer, North Riding Asylum, Clifton.
1902. Orr, David, M.B., C.M.Edin., Pathologist, County Asylum, Prestwich, Lancs.
1899. Osburne, Cecil A. P., F.R.C.S.Edin., L.R.C.P.Edin., The Grove, Old Catton, Norwich.

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1890. Oswald, Landel R., M.B., M.P.C., Physician Superintendent, Royal Asylum, Gartnavel, Glasgow.
1899. Owen, Corbet W., M.B., C.M.Edin., 31, Victoria Place, High Street, Bangor, North Wales.
1905. Paine, Frederick, M.R.C.S., L.R.C.P., Claybury Asylum, Woodford Bridge, Essex.
1907. Parker, James, L.R.C.S.&P. and L.M.Irel., Assistant Medical Officer, West Riding Asylum, Wakefield.
1898. Parker, William Arnot, M.B., C.M., Medical Superintendent, Gartloch Asylum, Garteosh, N.B.
1898. Pasmore, Edwin Stephen, M.D.Lond., M.R.C.P.Lond., Croydon Mental Hospital, Warlingham, Surrey.
1901. Passmore, Wm. Edwin, L.S.A.Lond., Forest View, Woodford Bridge, Essex.
1899. Paton, Robert N., L.R.C.P., L.R.C.S.Edin., Medical Officer, H.M. Prison, Wormwood Scrubbs, London, W.
1899. Patrick, John, M.B., Ch.B., District Asylum, Belfast.
1892. Patterson, Arthur Edward, M.D., C.M.Aber., Senior Assistant Medical Officer, City of London Asylum, Dartford.
1905. Paul, Maurice Eden, M.D.Brux., M.R.C.S., L.R.C.P., Moorcroft, Parkstone, Dorset.
1907. Peachell, George Ernest, M.B., B.S.Lond., M.R.C.S., L.R.C.P., Assistant Medical Officer, West Sussex County Asylum, Chichester.
1903. Pearce, Francis H., M.B., B.C.Cantab., Earlswood Asylum, Redhill, Surrey.
1893. Perceval, Frank, M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, County Asylum, Prestwich, Manchester, Lancashire.
1878. Philipps, Sutherland Rees, M.D., C.M. Queen's Univ. Irel., F.R.G.S., 4, The Beacon, Exmouth.
1875. Philipson, Sir George Hare, M.D. and M.A.Cantab., F.R.C.P.Lond., 7, Eldon Square, Newcastle-on-Tyne.
1906. Phillips, Nathaniel Richard, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, County Asylum, Abergavenny, Monmouthshire.
1905. Phillips, Norman Routh, M.D.Brux., M.R.C.S., L.R.C.P., St. Andrew's Hospital, Northampton.
1891. Pierce, Bedford, M.D.Lond., F.R.C.P., Medical Superintendent, The Retreat, York. (*Hon. Sec. N. and M. Division.*)
1888. Pietersen, J. F. G., M.R.C.S., Ashwood House, Kingswinford, near Dudley, Stafford.
1896. Planck, Charles, M.A.Camb., M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, The Asylum, Haywards Heath.
1889. Pope, George Stevens, L.R.C.P.&L.R.C.S.Edin., L.F.P.&S.Glasg., Medical Superintendent, Somerset and Bath Asylum, "Westfield," near Wells, Somerset.
1876. Powell, Evan, M.R.C.S.Eng., L.S.A., Medical Superintendent, Borough Lunatic Asylum, Nottingham.
1904. Pringle, Archibald Douglas, Government Asylum, Pietermaritzburg, Natal, South Africa.
1875. Pringle, Henry T., M.D.Glasg., Hawtree, Ferndown, Wimborne.
1901. Pugh, Robert, M.D.Edin., Ch.B., Medical Superintendent, Brecon and Radnor Asylum, Talgarth, S. Wales.
1904. Quin, Henry C. E., L.R.C.P., L.R.C.S.Edin., Camberwell House, Peckham Road, S.E.
1904. Race, John Percy, M.R.C.S., L.R.C.P., L.S.A., Assistant Medical Officer, London County Asylum, Colney Hatch, N.
1899. Rainsford, F. E., M.D., B.A., Resident Physician, Stewart Institute, Palmerston, co. Dublin.
1894. Rambaut, Daniel F., M.A., M.D.Univ. Dubl., Salop and Montgomery Asylum, Bicton Heath, Shrewsbury.
1902. Rattray, A. Mair, M.B., C.M.Edin., City Asylum, Gosforth, Newcastle-on-Tyne.

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1889. Raw, Nathan, M.D., F.R.C.S., 66, Rodney Street, Liverpool.

1893. Rawes, William, M.D.Durh., F.R.C.S.Eng., Medical Superintendent, St. Luke's Hospital, Old Street, London, E.C.

1870. Rayner, Henry, M.D.Aberd., M.R.C.P.Edin., 16, Queen Anne Street, London, W. (PRESIDENT, 1884.) (*General Secretary*, 1878–89.) (*Co-Editor of Journal since* 1895.)

1903. Read, George F., L.R.C.S., L.R.C.P.Edin., Hospital for the Insane, New Norfolk, Tasmania.

1899. Redington, John, F.R.C.S.&L.R.C.P.I., A.M.O., Richmond Asylum, Dublin.

1887. Reid, William, M.D., Physician Superintendent, Royal Asylum, Aberdeen.

1886. Revington, George, M.D, and Stewart Scholar Univ. Dubl., M.P.C., Medical Superintendent, Central Criminal Asylum, Dundrum, Ireland.

1907. Reynolds, Ernest Septimus, B.Sc.Vict., M.D., F.R.C.P.Lond., 2, St. Peter's Square, Manchester.

1903. Rhodes, John Milson, M.D.Brux., L.R.C.P.&S.Edin., Ivy Lodge, Barlow Moor, Didsbury, Manchester.

1899. Rice, David, M.R.C.S., L.R.C.P., City Asylum, Hillesdon, Norwich.

1897. Richard, William J., M.A., M.B., C.M.Glasg., Medical Officer, Govan Parochial Asylum, Merryflats, Govan.

1899. Richards, John, M.B., C.M.Edin., Joint Counties Asylum, Carmarthen.

1905. Ridley, Edward Hope, M.D.Edin., 4, Columbia Street, London, N.E.

1904. Rigden, Alan, M.D.Durh., Salop and Montgomery Asylum, nr. Shrewsbury.

1907. Rivers, William Gregory, M.B., Ch.B.Edin., Assistant Medical Officer, Cornwall County Asylum, Bodmin.

1893. Rivers, William H. R., M.A., M.D.Lond., St. John's College, Cambridge University.

1903. Roberts, Norcliffe, M.B., B.S.Durh., London County Asylum, Cane Hill, Coulsdon, Surrey.

1871. Robertson, Alexander, M.D.Edin., 11, Woodside Crescent, Glasgow.

1905. Robertson, Constance C., M.D.Durh., B.S., Semmercote, Darlington.

1887. Robertson, Geo. M., M.B., C.M. and F.R.C.P.Edin., M.P.C., Medical Superintendent, District Asylum, Larbert, Stirling.

1895. Robertson, William Ford, M.D., C.M., 9, Priestfield Road, Edinburgh.

1905. Robertson-Milne, Major Charles John, M.B., C.M.Aberd., Superintendent, Bengal Criminal Asylum, Berampore, Bengal.

1900. Robinson, Harry A., M.D., Ch.B.Vict., 57, Canning Street, Liverpool.

1876. Rogers, Edward Coulton, M.R.C.S.Eng., L.S.A., County Asylum, Fulbourn, Cambridge.

1895. Rolleston, Lancelot W., M.B., B.S.Durh., Medical Superintendent, Middlesex County Asylum, Napsbury, near St. Albans.

1879. Ronaldson, J. B., M.D.St.And., F.R.C.S.&L.R.C.P.Edin., Medical Officer, District Asylum, Haddington, N.B.

1879. Roots, William H., M.R.C.S., Canbury House, Kingston-on-Thames.

1899. Rorie, George Arthur, M.B., C.M., Senior Assistant Medical Officer, Dorset County Asylum, Dorchester.

1860. Rorie, James, M.D.Edin., L.R.C.S.Edin., 4, Roxburgh Terrace, West Park Road, Dundee. (*Late Hon. Secretary for Scotland.*)

1888. Ross, Chisholm, M.D., 147, Macquarie Street, Sydney, New South Wales.

1905. Ross, Sheila Margaret, M.B., Holloway Sanatorium, Virginia Water, Surrey.

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1899. Rotherham, Arthur, M.A., M.B., B.C.Cantab., Medical Superintendent, Darenth Asylum, Dartford, Kent.

1906. Rowan, Marriott Logan, B.A., M.D., R.M.I., Assistant Medical Officer, Derby County Asylum, Mickleover.

1884. Rowe, Edmund L., L.R.C.P.&S.Edin., Medical Superintendent, Borough Asylum, Ipswich.

1883. Rowland, E. D., M.B., C.M.Edin., The Public Hospital, George Town, Demerara, British Guiana.

1902. Rows, Richard Gundry, M.D.Lond., M.R.C.S., L.R.C.P., Pathologist, County Asylum, Lancaster.

1877. Russell, Arthur P., M.B., M.R.C.P.Edin., The Lawn, Lincoln.

1907. Rutherford, Henry Richard Charles, L.R.C.P.&S.Irel., L.M., Ballinasloe, Co. Galway.

1866. Rutherford, James, M.D.Edin., F.R.C.P.Edin., F.F.P.S.Glasgow. (*Hon. Secretary for Scotland*, 1876–86.)

1896. Rutherford, James Mair, M.B., C.M.Edin., Assistant Physician, Royal Edinburgh Asylum, Morningside.

1907. Rutherford, James Whigham, L.R.C.P.&S.I., L.M., Assistant Medical Officer, Ballinasloe, Co. Galway.

1896. Rutherford, Robert Leonard, M.D., Medical Superintendent, Digby's Asylum, Exeter.

1892. Ruttledge, Victor J., M.B., District Asylum, Londonderry, Ireland.

1908. Ruttledge, W. E., M.R.C.S., L.R.C.P.Lond., County Asylum, Wells, Somerset.

1902. Sall, Ernest Frederick, M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, Borough Asylum, Canterbury.

1894. Sankey, Edward H. O., M.A., M.B., B.C.Cantab., Resident Medical Licensee, Boreatton Park Licensed House, Baschurch, Salop.

* Sankey, R. H. Heurtley, M.R.C.S.Eng., 3, Marston Ferry Road, Oxford.

1873. Savage, Geo. H., M.D.&F.R.C.P.Lond., 26, Devonshire Place, W. (*Late Editor of Journal.*) (PRESIDENT, 1886.)

1906. Scanlan, John, L.R.C.S.Edin., 7, Park Villas, Victoria Road, Cork.

1896. Scott, James, M.B., C.M.Edin., 19, Raleigh Gardens, Brixton Hill, London, S.W.

1889. Scowcroft, Walter, M.R.C.S., Medical Superintendent, Royal Lunatic Hospital, Cheadle, near Manchester.

1880. Seccombe, George S., M.R.C.S., L.R.C.P., Port of Spain, Trinidad, W.I.

1879. Seed, William Hy., M.B., C.M.Edin., The Poplars, 110, Waterloo Road, Ashton-on-Ribble, Preston.

1906. Sephton, Robert Poole, B.A.Cantab., M.R.C.S.Eng., L.R.C.P.Lond., County Lunatic Asylum, Lancaster.

1882. Seward, William J., M.B.Lond., M.R.C.S., Medical Superintendent, Colney Hatch Asylum, London, N.

1901. Shaw, B. Henry, M.B., B.Ch., B.A.O., R.M.I., Assistant Medical Officer, County Asylum, Stafford.

1905. Shaw, Charles John, M.B., Ch.B., M.R.C.P.E., Montrose Asylum.

1891. Shaw, Harold B., B.A., M.B., D.P.H.Camb., Medical Superintendent, Isle of Wight County Asylum, Whitecroft, Newport, Isle of Wight.

1904. Shaw, Patrick, L.R.C.P.&S.Edin., Ararat Hospital for the Insane, Ararat, Victoria, Australia.

Shaw, T. Claye, M.D.Lond., F.R.C.P.Lond., 30, Harley Street, London, W.

1882. Sheldon, Thomas S., M.B., Medical Superintendent, Cheshire County Asylum, Parkside, Macclesfield.

1900. Shera, John E. P., M.D., Somerset County Asylum, Wells, Somerset.

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1877. Shuttleworth, George E., M.D.Heidelb., M.R.C.S. and L.S.A.Eng., B.A. Lond., late Medical Superintendent, Royal Albert Asylum, Lancaster; Parkholme, East Sheen, S.W.

1899. Sibley, Reginald Oliver, M.B.Lond., M.R.C.S., L.R.C.P., Assistant Medical Officer, London County Asylum, Cane Hill, Coulsdon, Surrey.

1906. Sievwright, Henry Gates, M.R.C.S., L.R.C.P.Lond., Tor Glas, Whitchurch, nr. Cardiff.

1901. Simpson, Alexander, M.A., M.D.Aber., Medical Superintendent, County Asylum, Winwick, Newton-le-Willows, Lancashire.

1905. Simpson, Edward Swan, M.B., Ch.B.Edin., East Riding Asylum, Beverley, Yorks.

1888. Sinclair, Eric, M.D.Glasg., Richmond Terrace, Demain, Sydney, New South Wales.

1891. Skeen, James Humphry, M.B., C.M.Aber., Medical Superintendent, Kirklands Asylum, Bothwell.

1898. Skeen, William St. John, M.B., C.M., County Asylum, Winterton, Ferryhill, Durham.

1900. Skinner, Ernest W., M.D., C.M.Edin., Mansfield, Rye, Sussex.

1901. Slater, George N. O., M.D., Assistant Medical Officer, Essex County Asylum, Brentwood.

1897. Smalley, Herbert, M.D.Durh., L.R.C.P., M.R.C.S., Prison Commission, Home Office, Whitehall, S.W.

1907. Smith, Ch. Mollyson, M.B., Ch.B.Aberd., Assistant Medical Officer, County Asylum, Prestwich, Manchester.

1905. Smith, George William, M.B., Holloway Sanatorium, Virginia Water, Surrey.

1907. Smith, Henry Watson, M.B., Ch.B., Assistant Medical Officer, Durham County Asylum, Winterton, Ferryhill.

1899. Smith, John G., M.D., Herts County Asylum, Hill End, St. Albans, Herts.

1904. Smith, Peter Campbell, L.R.C.P.&S.Edin., 4, Upper Grosvenor Road, Tunbridge Wells.

1885. Smith, R. Percy, M.D., B.S., F.R.C.P., M.P.C., 36, Queen Anne Street, Cavendish Square, W. (*General Secretary*, 1896–7.) (PRESIDENT, 1904–5.)

1884. Smith, W. Beattie, F.R.C.S.Edin., L.R.C.P.Lond., 4, Collins Street, Melbourne, Victoria.

1903. Smith, William Maule A., M.B., ChB.Edin., M.R.C.P.Edin., Senior Assistant Medical Officer, Worcester County Asylum, Barnsley Hall, Bromsgrove.

1901. Smyth, Robt. B., M.A., M.B., Ch.B., Senior Assistant Medical Officer, County Asylum, Gloucester.

1899. Smyth, Walter S., M.B., B.Ch., R.U.I., Assistant Medical Officer, County Asylum, Antrim.

1885. Soutar, James Grieg, M.B., Barnwood House, Gloucester.

1906. Spark, Percy Charles, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, The Colony, Ewell, Surrey.

1883. Spence, John Buchan, M.D., M.C., The Asylum, Colombo, Ceylon.

1875. Spence, J. Beveridge, M.D., M.C.Queen's Univ., Medical Superintendent, Burntwood Asylum, near Lichfield. (PRESIDENT, 1899–1900, formerly *Registrar*.)

1891. Stansfield, T. E. K., M.B., C.M.Edin., Baldwyn's Park, Bexley, Kent.

1901. Starkey, William, M.B., B.Ch., B.A.O.Roy. Univ. Irel., Assistant Medical Officer, Lancashire County Asylum, Prestwich, near Manchester.

1907. Steele, Patrick, M.B., Ch.B.Edin., Assistant Medical Officer, Edinburgh District Asylum, Bangour, Uphall.

1898. Steen, Robert H., M.D.Lond., B.A., R.U.I., Medical Superintendent, City of London Asylum, Stone, Dartford.

1905. Stevenson, William Edward, M.B., B.S.Durh., c/o P. & O. S.N. Co., 122, Leadenhall Street, E.C.

1905. Stewart, Frederick William, B.A., M.D., B.Ch., B.A.O.I., Dipl. Ment. Dis., R.U.I.,Kent County Asylum, Barming Heath, near Maidstone.

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1907. Stewart, Helen C., M.B., Ch.B.Birm., Edala, Chigwell, Essex.
1868. Stewart, James, F.R.C.P.Edin., L.R.C.S.Irel., Junior Constitutional Club, Piccadilly, S.W.; 40, South Hill Park, Hampstead Heath.
1887. Stewart, Rothsay C., M.R.C.S., Medical Superintendent, County Asylum, Leicester.
1905. Stillwell, Henry Francis, L.R.C.P.&S.E., Barnwood House, Gloucester.
1862. Stilwell, Henry, M.D.Edin., M.R.C.S.Eng., Hanover Lodge, Compton Road, Eastbourne.
1899. Stilwell, Reginald J., M.R.C.S., L.R.C.P., Moorcroft House, Hillingdon, Middlesex.
1864. Stocker, Alonzo Henry, M.D.St. And., M.R.C.P.Lond., M.R.C.S.Eng., Medical Superintendent, Peckham House Asylum, Peckham.
1897. Stoddart, William Henry Butter, M.D., B.S.Lond., M.R.C.S.Eng., M.R.C.P.Lond., Bethlem Royal Hospital, London, S.E.
1905. Strathearn, John, M.B., Ch.B., British Ophthalmic Hospital, Jerusalem.
1903. Stratton, Percy Haughton, M.R.C.S., L.R.C.P.Lond., The Royal Societies Club, St. James's Street, S.W.
1885. Street, C. T., M.R.C.S., L.R.C.P., Haydock Lodge, Ashton, Newton-le-Willows, Lancashire.
1900. Sturrock, James Prain, M.A., M.B., C.M.Edin., Midlothian and Peebles Asylum, Rosslynlee, N.B.
1886. Suffern, Alex. C., M.D., Medical Superintendent, Ruberry Hill Asylum near Bromsgrove, Worcestershire.
1894. Sullivan, William C., M.D.R.U.I., 444, Camden Road, London, N.
1898. Sutcliffe, John, M.R.C.S., L.R.C.P., Royal Asylum, Cheadle, near Manchester.
1895. Sutherland, John Francis, M.D.Edin., Deputy Commissioner in Lunacy, 51, Queen Street, Edinburgh.
1877. Swanson, George I., M.D.Edin., The Pleasaunce, Heworth Moor, York.
1901. Sykes, Arthur, M.R.C.S., L.R.C.P., Medical Superintendent, City Asylum, Hellesdon, nr. Norwich.

1897. Tait, James Sinclair, M.D., L.R.C.P.Lond., F.R.C.S.Edin., L.R.C.P. Edin., D.P.H.Edin., R.C.P.S.Edin., F.P.S.Glasg., Medical Superintendent, Hospital for Insane, St. John's, Newfoundland.
1904. Tate, Robert George H., M.D., D.P.H., Lt. R.A.M.C., c/o Messrs. Holt & Co., 3, Whitehall Place, S.W.
1857. Tate, William B., M.D.Aber., M.R.C.P.Lond., M.R.C.S.Eng., Medical Superintendent, Lunatic Hospital, The Coppice, Nottingham.
1897. Taylor, Frederic Ryott Percival, M.D., B.S.Lond., M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, East Sussex Asylum, Hellingly.
1907. Taylor, John Archibald, M.B., Ch.B.Edin., Assistant Medical Officer, County and City Asylum, Powick, Worcester.
1904. Thompson, Alexander D., M.B., Ch.B.Glasg., "Parkhurst," Edinbro' Road, Dumfries, N.B.
1880. Thomson, David G., M.D., C.M., Medical Superintendent, County Asylum, Thorpe, Norfolk.
1903. Thomson, Herbert Campbell, M.D., F.R.C.P.Lond., Assist. Physician Middlesex Hospital, 34, Queen Anne Street, W.
1905. Thomson, James Hutcheon, M.B., Ch.B.Aberd., Powick Asylum, Worcester.
1905. Thwaites, Harry, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Lebanon Hospital, Asfuriyeh, near Beyrout, Syria.
1905. Tidbury, Robert, M.D., R.U.I., M.Ch., L.M., The Borough Asylum, Ipswich.
1901. Tighe, John V. G. B., M.B., B.Ch., B.A.O.Irel., North Riding Asylum, Clifton, Yorks.
1900. Tinker, William, M.R.C.S., L.R.C.P., Hordle House, Brockenhurst, Hants.

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1898. Todd, Percy Everard, M.B., Medical Superintendent, Pretoria Asylum, Transvaal, South Africa.
1903. Topham, J. Arthur, B.A.Cantab., M.R.C.S.&P.Lond., County Asylum, Chartham, Kent.
1896. Townsend, Arthur A. D., M.D., Assistant Medical Officer, Hospital for Insane, Barnwood House, Gloucester.
1904. Treadwell, Oliver Fereira Naylor, M.R.C.S.Eng., L.S.A., H. M. Prison, Parkhurst, I. of W.
1903. Tredgold, Alfred F., M.R.C.S., L.R.C.P., 6, Dapdune Crescent, Guildford, Surrey.
1902. Trevelyan, Edmund Fauriel, M.D.Lond., F.R.C.P.Lond., Assistant Physician to the Leeds General Infirmary, 40, Park Square, Leeds.
1881. Tuke, Charles Molesworth, M.R.C.S.Eng., Chiswick House, Chiswick.
1888. Tuke, John Batty, jun., M.D., F.R.C.P.Edin., Resident Physician, Saughton Hall, Edinburgh; Linden Lodge, Loanhead, Midlothian.
1885. Tuke, T. Seymour, M.A., M.B., B.Ch., M.R.C.S.E., Chiswick House, Chiswick, W.
1877. Turnbull, Adam Robert, M.B., C.M.Edin., Medical Superintendent, Fife and Kinross District Asylum, Cupar. (*Late Hon. Secretary for Scotland.*)
1906. Turnbull, Peter Mortimer, M.B., B.Ch.Aberd., Tooting Bec Asylum, Tooting, S.W.
1889. Turner, Alfred, M.D., C.M., Plympton House, Plympton, S. Devon.
1906. Turner, Frank Douglas, M.B.Lond., M.R.C.S., L.R.C.P., Medical Officer, Eastern Counties Asylum for Idiots, Colchester.
1890. Turner, John, M.B., C.M.Aberd., Senior Assistant Medical Officer, Essex County Asylum, Brentwood.
1903. Turner, Oliver P., M.R.C.S., L.R.C.P., Peckham House, Peckham, S.E.
1878. Urquhart, Alex. Reid, M.D., F.R.C.P.E., Physician Superintendent, James Murray's Royal Asylum, Perth. (*Co-Editor of Journal since* 1894.) (*Hon. Secretary for Scotland,* 1886–94.) (PRESIDENT, 1898–9.)
1907. Urquhart, Annie Davidson, M.B., B.Ch.Edin., Assistant Medical Officer, Northumberland County Asylum, Morpeth.
1904. Vincent, George A., M.B., B.Ch.Edin., Assistant Medical Superintendent, St. Ann's Asylum, Trinidad, B.W.I.
1894. Vincent, William James, M.B.Durh., Assistant Medical Officer, Wadsley Asylum, near Sheffield.
1884. Walker, Edw. B. C., M.D., C.M.Edin., Medical Superintendent, East Sussex Asylum, Haywards Heath.
1896. Walker, William F., L.R.C.S.&L.M.Edin., L.S.A.Lond., Plas-yn-Dinas, Dinas Mawddwy, Merionethshire.
1900. Walters, John Basil, M.R.C.S.Eng., L.R.C.P.Lond., 51, Devonshire Street, Portland Place, London, W.
1889. Warnock, John, M.D., C.M., B.Sc., Abassia, nr. Cairo, Egypt.
1895. Waterston, Jane Elizabeth, M.D.Brux., L.R.C.P.I., L.R.C.S.Edin., 85, Parliament Street, Box 78, Cape Town, South Africa.
1902. Watson, Frederick, M.B., C.M.Edin., The Grange, East Finchley, London, N.
1891 Watson, George A., M.B., C.M.Edin., M.P.C., County Asylum, Rainhill, Liverpool.
1885 Watson, William Riddell, L.R.C.S. and L.R.C.P.Edin., Govan District Asylum, Hawkhead, Paisley.
1897. Welsh, Gilbert Aitken, M.D., C.M.Edin., The Crescent, Garliestown, N.B.
1880. West, George Francis, L.R.C.P.Edin., Medical Superintendent, District Asylum, Kilkenny, Ireland.
1872. Whitcombe, Edmund Bancks, M.R.C.S., Medical Superintendent, Winson Green Asylum, Birmingham. (PRESIDENT, 1891.)
1884. White, Ernest William, M.B.Lond., M.R.C.P.Lond., Fenstanton, Christchurch Road, Streatham'Hill, S.W.; and Ferndale, Sevenoaks. (*Hon. Sec. South-Eastern Division,* (1897–1900. (PRESIDENT 1903–4.)

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1905. White, Robert George, M.A., M.B., B.Sc., Ch.B., Pathological Department, School of Medicine, Cairo, Egypt.
1903. Whittingham, George M., M.R.C.S., L.R.C.P., West Ham and East London Hospital, Stratford, E.
1905. Whittington, Richard, M.A., M.D., 1, Sillwood Place, Brighton, Sussex.
1889. Whitwell, James Richard, M.D. and C.M., Medical Superintendent, Suffolk County Asylum, Melton Woodbridge.
1903. Wigan, Charles Arthur, M.D.Durh., M.R.C.S.Eng., Deepdene, Portishead, Somerset.
1883. Wiglesworth, Joseph, M.D., F.R.C.P.Lond., Rainhill Asylum, Lancashire. (PRESIDENT, 1902–3.)
1895. Wilcox, Arthur William, M.D., C.M.Edin., Assistant Medical Officer, County Asylum, Hatton, Warwick.
1900. Wilkinson, H. B., M.R.C.S., L.R.C.P., Assistant Medical Officer, Plymouth Borough Asylum, Blackadon, Ivybridge, South Devon.
1887. Will, John Kennedy, M.A., M.D., C.M., Bethnal House, Cambridge Road, N.E.
1907. Williams, Charles E. C., B.A., M.B., B.Ch.Dubl., Assistant Medical Officer, Holloway Sanatorium, Virginia Water, Surrey.
1905. Williams, David John, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, The Asylum, Kingston, Jamaica.
1901. Wilson, Albert, M.D.Edin., 22, Langham Street, Portland Place, W.
1904. Wilson, Geoffrey Plumpton, M.R.C.S., L.R.C.P.Lond., Kesteven Asylum. Sleaford, Lincs.
1890. Wilson, George R., M.D., C.M., M.P.C., 8, Rutland Square, Edinburgh.
1896. Wilson, Robert, M.B., C.M.Glasg., Nailsworth, Gloucestershire.
1897. Winder, W. H., M.R.C.S., L.R.C.P.Lond., D.P.H.Cantab., Deputy Medical Officer, H.M. Convict Prison, Aylesbury.
1875. Winslow, Henry Forbes, M.D.Lond., M.R.C.P.Lond., 11, Burwood Place, Connaught Square, Hyde Park, W.; and Little Combe, Charlton.
1894. Wood, Guy Mills, M.B.Durh., 49, Gordon Square, London, W.C.
1904. Wood, Martin Stanley, M.B., Ch.B.Vict., Royal Asylum, Cheadle, Cheshire.
1903. Wood, Maurice Dale, M.D.Durh., B.S., Assistant Medical Officer, Brighton Borough Asylum, Haywards Heath, Sussex.
1869. Wood, T. Outterson, M.D., M.R.C.P.Lond., F.R.C.P., F.R.C.S.Edin., 40, Margaret Street, Cavendish Square, W. (PRESIDENT, 1905–6.)
1885. Woods, J. F., M.D., M.R.C.S., 7, Harley Street, Cavendish Square, W.
1905. Worsley, Richard Le Geyt, M.R.C.S., L.R.C.P., H.M. Prison, Liverpool.
1900. Worth, Reginald, M.R.C.S., L.R.C.P., Middlesex Asylum, Tooting, S.W.
1877. Worthington, Thomas Blair, M.A., M.D., and M.C.Trin. Coll., Dubl., 95, Breconsfield Villas, Preston Park, Brighton.
1862. Yellowlees, David, LL.D., M.D.Edin., F.F.P.S.Glasg., 6, Albert Gate, Dowan Hill, Glasgow. (PRESIDENT, 1890.)

ORDINARY MEMBERS	646
HONORARY MEMBERS	30
CORRESPONDING MEMBERS	15
Total	691

Members are particularly requested to send changes of address, etc., to Dr. C. Hubert Bond, the Honorary Secretary, 11, *Chandos Street, Cavendish Square, London, W., and in duplicate to the Printers of the Journal, Messrs. Adlard and Son,* 22½ *Bartholomew Close, London, E.C.*

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List of those who have passed the Examination for the Certificate of Efficiency in Psychological Medicine, entitling them to append M.P.C. (Med.-Psych. Certif.) to their names.

Adamson, Robert O.
Adkins, Percy, R.
Ainley, Fred Shaw.
Ainslie, William.
Alexander, Edward H.
Anderson, A. W.
Anderson, Bruce Arnold.
Anderson, John.
Andriezen, W.
Armour, E. F.
Attegalle, J. W. S.
Aveline, H. T. S.
Ballantyne, Harold S.
Barbour, William.
Barker, Alfred James Glanville.
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Bird, James Brown.
Blachford, J. Vincent.
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Black, Victor.
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7 Bond, C. Hubert.
Bond, R. St. G. S.
Bowlan, Marcus M.
Boyd, James Paton.
Bristowe, Hubert Carpenter.
Brodie, Robert C.
Brough, C.
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Bruce, Lewis C.
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Clayton, Thomas M.
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Collier, Joseph Henry.
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Cotton, William.
Couper, Sinclair.
Cowan, John J.
Cowie, C. G.
Cowie, George.
Cowper, John.
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Cram, John.
Crills, G. H.
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Cullen, George M.
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De Silva, W. H.
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Donald, Wm. D. D.
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Donellan, James O'Conor.
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Howden, Robert.
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Pearce, Walter.
Penfold, William James.
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Reid, Matthew A.
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Robson, Francis Wm. Hope.
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Rose, Andrew.
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Slattery, J. B.
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Snowball, Thomas.
Soutar, James G.
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Steel, John.
Stephen, George.
Stewart, William Day.
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9 Stoddart, William Hy. B.
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Stuart, William James.
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Thompson, George Matthew.
Thomson, Eric.
Thomson, George Felix.
Thomson, James H.
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Trotter, Robert Samuel.
Turner, W. A.
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Walker, James.
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Warde, Wilfred B.
Waterston, Jane Elizabeth.
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Welsh, David A.
West, J. T.
Whitwell, Robert R. H.
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Will, John Kennedy.
Williams, D. J.
Williamson, A. Maxwell.
4 Wilson, G. R.
Wilson, James.
Wilson, John T.
Wilson, Robert.
Wood, David James.
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Yeoman, John B.
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2 To whom the Gaskell Prize (1889) was awarded.
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4 To whom the Gaskell Prize (1892) was awarded.
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10 To whom the Gaskell Prize (1906) was awarded.

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Part I.—Original Articles.

Amentia and Dementia: a Clinico-Pathological Study.

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PART III.—DEMENTIA (*continued*).

PAGE

[*Introduction* . . . . . LII. 221]
[*The general pathology of mental disease and the functional regions of the cerebrum* . . . . . LII. 224]
[*Mental confusion and dementia* . . . . . LII. 428]
[*Varieties of dementia* . . . . . LII. 711]
[*Group I—Primarily neuronic dementia* . . . . . LII. 716]
Group II—Progressive and secondary dementia 2
(a) *Progressive senile dementia* 10
Morbid anatomy and pathology 12
Symptomatology 19
(b) *Dementia paralytica* 22
Heredity of insanity and of parental and family degeneracy . 26
Death-rates in mental disease (including and excluding dementia paralytica) 32
Morbid anatomy of dementia paralytica 37
Regional cortical wasting in dementia paralytica . . . 41
Cerebral under-development in certain types of dementia paralytica 48
Clinical types of dementia paralytica 49
Summary 55
[*Group III—Special varieties of dementia* . . . . .]

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Group II.—Progressive and Secondary Dementia.

The present portion of this paper deals with the subject of progressive and secondary dementia. It includes the consideration of those cases of mental disease which, owing to the existence of certain extra-neuronic encephalic morbid states, do not develop a practically stationary condition of mental enfeeblement consequent on the loss of a proportion of the higher cortical neurones, but undergo a more or less rapidly progressive process of neuronic dissolution, which, if the patient survives to such a stage, finally ends in gross dementia.

As has already frequently been stated, the necessary precursor to dementia, in the opinion of the writer, is the symptom-complex which he has already exhaustively considered under the term "Mental Confusion" (*Journal of Mental Science*, July, 1906).

When referring to the causes of mental confusion, he has expressed the view that the necessary precedent to this psychic state is, in at least all severe cases, a *deficient durability of the higher cortical neurones*, which ranks, therefore, as the essential physical basis.

Further, he has dealt with the non-pathological and secondary or exciting causes of this symptom-complex, namely, the *various forms of physical and mental stress*, which, especially at the "critical" periods of life, often excite morbid changes in cortical neurones of deficient durability, although they would be relatively or absolutely without prejudicial influence on normal cortical neurones. This factor merely causes temporary mental disturbances (unassociated with any considerable degree of mental confusion) in such individuals as possess cortical neurones of average durability but of subnormal or abnormal development and of imperfect functional stability.

Lastly, he has referred to the chief exciting or secondary causes of mental confusion which are pathological in nature, and has classed these into two groups. In the first of these groups has been considered the *direct action of toxines*, especially alcoholic excess and the toxæmia which frequently follows childbirth, but also, though more rarely, the different toxæmias and infections.

Whether the cases of mental confusion which arise in consequence of the action of one or more of these causative agents

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recover, or develop a mild or moderate grade of dementia, depends on the resistance of the affected neurones and on the extent and severity of the pathological changes which are produced. In the latter case, the result is an example of the "primarily neuronic dementia" which has been considered in the last division of this paper, and the patient may remain in a stationary condition of mild or moderate mental enfeeblement for many years, or even for life.

In the case of the second group of pathological and secondary causes of mental confusion the results are different, and it is to the consideration of these that the present portion of this paper is devoted. These causes are, in essence, consequences of the *indirect action of toxines*, which results in imperfect nutrition of the cortical neurones and therefore tends to interfere with their vitality and functional stability.

This indirect action of toxines will be considered under two main headings, the contents of which present much similarity as regards pathology but differ considerably in details of procedure and in symptomatological consequences. They are responsible respectively for the types of case described under the terms "Progressive Senile Dementia" and "Dementia Paralytica." In both groups pathological changes exist in the cerebral vessels. These changes in the first group are chiefly of a degenerative or "wearing out" nature, and in the second are partly degenerative and partly of the nature of a reparative reaction. In the first the vascular changes are chiefly the result of natural decay, and in the second they are largely the consequences of an enhanced capacity of reparative reaction which is due to the previous occurrence of a severe and prolonged systemic toxæmia. In the first group general non-neuronic reparative reaction is feeble, and in the second it is variable, and in many cases very marked. In both groups the effect on the neurones is partly caused by imperfect nutrition and partly by secondary toxæmia. In both groups there is a tendency to the formation of a "vicious circle," but in the second this is much the more marked owing to the greater capacity of reparative reaction which exists. In the first group the patients are senile or presenile; in the second they are usually adult, but may be of any age from puberty to advanced senility.

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Group A.—Degeneration of the Cerebral Vessels accompanying Senility or Premature Senility.

As has been shown in the first part of this paper and also in greater detail in a previous paper (*Archives of Neurology*, vol. ii), there is a direct relationship between the presence of degeneration of the cerebral vessels and the development of severe dementia.

The chief facts bearing on this relationship are as follows:

(1) Simple senility (*i.e.*, old age) is not necessarily associated with gross degeneration of the cerebral vessels.

(2) In the insane, gross degeneration of the cerebral vessels may exist without dementia.

(3) Dementia, except in rare cases of slowly progressive presenile involution of the cortical neurones, does not progress beyond a moderate stage, if gross degeneration of the cerebral vessels does not coexist.

(4) In the 200 cases of Series A, and in the 233 cases of Series B, the percentage amount and also the severity of naked-eye degeneration of the cerebral vessels vary directly with the degree of dementia present.

(5) Severe degeneration of the cerebral vessels occurs before the development of gross dementia. In recent senile cases, with the mildest grade of dementia, but with considerable mental confusion, which, had they lived, would on clinical grounds have been expected to develop gross dementia, the percentage of naked-eye degeneration of the cerebral vessels is as great as it is in Groups IV and V (severe and gross dementia). On the other hand, in chronic and recurrent senile cases, with a mild grade only of dementia, naked-eye degeneration of the cerebral vessels is rarely present and is then relatively slight.

Hence the relationship between the presence of degeneration of the cerebral vessels and the development of dementia may be thus summed up: *In a cerebrum which has begun to break down, or where degeneration has progressed to the "moderate" stage,* (Group III, the chronic lunatic with moderate stationary dementia), *the presence or incidence of gross degeneration of the cerebral vessels will cause more or less rapid progress of the neuronic dissolution, with resulting gross dementia.*

In such cases the pathological process in the neurones is

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caused on the one hand by imperfect nutrition and on the other by secondary intoxication from incomplete removal of the waste products of metabolism and dissolution, and relatively little encephalic extra-neuronic reparative reaction occurs owing to the degenerative or "wearing out" nature of the whole process.

The dementia which supervenes progresses rapidly or slowly until death occurs.

It may be added that, whilst "wearing out" of the cerebral arteries ensues at different ages in different individuals, and as a rule only occurs when old age is reached, the premature induction of this by such devitalising agents as prolonged alcoholic excess and by organic affections, particularly of the heart and kidneys, is fairly common. The writer is of the opinion that usually rather more extra-neuronic reparative reaction occurs in the latter cases than in those in which the "wearing out" is due to simple senile decay.

Group B.—Certain Vascular and Neuroglial (and chiefly Secondarily Neuronic) Changes which Follow the Prolonged Action of Toxines, etc.

These appear to be largely of the nature of secondary proliferation after, or of reaction to the injury produced by the poison, toxine or pathogenic micro-organism; and their onset, in the opinion of the writer, is not necessarily coincident in time with its exhibition, but ensues as the result of adverse influences occurring at any subsequent period of life. That this statement is in accord with general pathology can readily be illustrated. Prolonged immunity is common after many of the severe specific infections, which induce profound and more or less permanent protective modifications of general metabolism. Excessive local reparative reaction often occurs after diphtheria, scarlet fever, and syphilis, and results in intractable strictures of orifices. On the other hand, a similar local reparative reaction in the arteries after an attack of syphilis is later on followed by dilatation and the formation of aneurysms. Further, injuries in the subjects of former syphilis frequently result in the occurrence of excessive local reparative reaction, and dense fibrous scars often follow abscesses, vaccination, etc., in the case of such persons. This

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fact is as readily explicable on the ground that the tissues, in consequence of a former attack of syphilis, possess a permanently enhanced capacity for reparative reaction to injury, as on the commonly accepted thesis that the *Spirochæta pallida* still exists in the body, after perhaps as long a period as twenty-five years.

The chief variety of mental disease which falls under the above heading is the dementia paralytica (general paralysis) which is a frequent sequela of systemic syphilis in degenerates and which rapidly or slowly passes on to a fatal issue.

As various authors give the percentage of ascertained previous syphilis in cases of dementia paralytica as anything from 50 or less to 100, and as several writers deny any direct causal relationship between syphilis and dementia paralytica, it would be futile to introduce such diverse and extraneous conclusions into this paper. The writer therefore purposes to confine himself to the repetition of his own previously published statistics on the subject, and especially so as prolonged experience has convinced him of their substantial accuracy.

These statistics deal with 19 private and 83 rate-paid patients, in the case of whom, in the course of a systematic inquiry into their histories, he was able to obtain trustworthy personal details.

In 15 of the 19 private cases there was a history or clear clinical evidence of former syphilis, and the date of infection, where it could be ascertained, was from four to twenty-five years before the onset of mental symptoms. The following details were obtained concerning the remaining four cases:

CASE 3.—Tabetic general paralysis. Was twelve years in the Army, and was then in the police force. Had been married for twelve years without children.

CASE 4.—Tabetic general paralysis. Was an Indian Government official for over thirty years, and at the age of thirty-seven married a half-breed, with whom he lived a jealous and unhappy life.

CASE 8.—Patient stated that he had had several gonorrhœas and orchitis in each testicle on separate occasions.

CASE 15.—Patient stated that he had had several gonorrhœas and gleets, and had also suffered from orchitis.

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Hence, of the 19 cases, syphilis was certain in 15 (79 *per cent.*), and probable in the remaining 4 (21 *per cent.*).

Of the 83 rate-paid cases, syphilis was proved to have existed in 59. The information was obtained from the histories, or from clinical or *post-mortem* evidence, and in some instances from all these sources. Syphilis had also probably existed in another 11 cases, there was no evidence for or against in 11, and it was definitely denied by the relatives in 2 cases. In the latter cases the only evidences against the disease were the direct negatives of the friends and the absence of clinical signs. In other cases where syphilis was proved to have existed an equally definite denial was given by the friends. Of the 59 cases in which it had certainly existed, it was probably "congenital" in 4, and was probably acquired after puberty in the remainder. Where the information was available, the date of syphilisation varied from nine to twenty-five years before the onset of dementia paralytica.

Hence, of the 72 cases which it is possible to employ, syphilis had existed in 59 (82 *per cent.*), and had probably existed in 11 (15 *per cent.*).

The writer therefore considers himself justified in concluding that syphilis is a necessary antecedent to, and is causally related to the development of dementia paralytica.

On the basis of this conclusion it is possible to demonstrate that the course taken by cases of dementia paralytica depends largely on their respective degrees of cerebral degeneracy, and also, as will be shown later in this section, that dementia paralytica is not a special organic disease of the cerebrum, but is a branch of ordinary mental disease.

In the under-developed and poorly-constructed neurones of the imbecile variety of juvenile general paralysis, the process of dissolution is slow, and the neuronic changes, as has been shown by Watson, are proportionately more extensive than are the vascular and neuroglial.

On the other hand, in the better-developed cerebra of the ordinary juvenile general paralytic, who is infected with syphilis at birth or thereabouts, the process of dissolution is more rapid, and vascular and neuroglial proliferation is more pronounced.

Further, in adult cases of general paralysis the course is usually chronic in degenerates, who readily break down under the influence of external "stress," and who, therefore, require

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early segregation, with the consequent relative absence of this factor; and it is commonly more rapid in the less degenerate subjects, who, before breakdown occurs, are frequently subjected to the severest forms of mental and physical "stress," and whose neurones are therefore strained to the utmost before asylum *régime* becomes necessary. In both these types, as the syphilitic infection at the time of its occurrence had acted on already developed neurones, and therefore had not induced still further developmental disabilities in these, vascular and neuroglial proliferation is pronounced.

Finally, in senile cases of general paralysis, in which reparative reaction is naturally more feeble, the course of the process of dissolution is variable, and the general type of the symptomatology and of the morbid anatomy and histology approximates towards that which exists in progressive senile dementia.

Though a former attack of syphilis, as has been stated, is usually the important extraneous factor in the production of progressive (secondary) non-senile dissolution of the higher neurones of the cerebrum, and is responsible for the development of the clinical entity termed "dementia paralytica," other influences, particularly certain of the slowly-acting metallic poisons—*e.g.*, lead—produce a progressive cerebral dissolution of similar character.

Further, of the insane who are the subjects of epilepsy, about 25 *per cent.* suffer from a similar progressive disintegration of the higher neurones of the cerebrum, which, in well-marked cases, presents a clinical symptomatology and a morbid anatomy which in many important details resemble those existing in dementia paralytica.

It may be added that such devitalising factors as prolonged alcoholic excess, etc., play an important secondary part in the development of many of the cases referred to under this heading, by producing morbid changes, not only in the higher neurones of the cortex, but also in the cerebral blood-vessels.

As dementia paralytica consists in essence, as will be seen later, of a dissolution of the (human) centre of higher association, it is necessarily impossible to reproduce this clinico-pathological entity by experiment on the lower animals. Watson has, however, shown that the prolonged exhibition of certain virulent neurone toxines—*e.g.*, abrin and ricin—produces in the cerebrum

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of the guinea-pig or rabbit dissolution of cortical neurones and proliferation of the neuroglia and blood-vessels. There is no doubt that the former is the direct result of neurone intoxication, and that the latter is a reparative reaction to the injury produced. Though such experimental results present no true homology to human dementia paralytica and progressive dementia, they nevertheless indicate that the non-neuronic elements of the encephalon react to neurone destruction, as do the local mesoblastic elements of other parts of the body to destruction of glandular epithelium. From this aspect they are therefore of great importance in that they experimentally support the soundness of the thesis, based on grounds of general pathology and advocated by the writer in the present and previous papers, that the morbid process in dementia paralytica is the pathological ally of that occurring in the different types of progressive dementia, and is, in essence, in no way dissimilar (differences in structure and function being allowed for), from the morbid process which occurs in, for example, certain forms of renal cirrhosis.

It may further be added that the results of these experiments indicate the likelihood that the morbid process in acute or advanced cases of dementia paralytica may be much aggravated by such secondary microbic invasions as necessarily occur owing to the decreased resistance of such patients to the attack of organisms, which, under normal conditions, might not be pathogenic.

The cases belonging to the present group of "progressive and secondary dementia" amount to 47 only, thus forming 10·6 *per cent.* of the total of 445 cases of dementia, and 6·5 *per cent.* of the total of 728 cases of amentia and dementia.

They will be divided in accordance with the pathological considerations just adduced, into the following classes:

	M.	F.	T.
Class (*a*).—Progressive senile dementia .	9	15	24
Class (*b*).—Dementia paralytica . . .	14	9	23
Total	23	24	47

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CLASS (A).

Progressive Senile Dementia.

The cases to be referred to under the term "Progressive Senile Dementia" differ from the contents of the preceding group of "Primarily Neuronic Dementia" in the fact, as has already been indicated, that the dementia is not stationary, but progresses rapidly or slowly until death occurs.

In the case of the preceding group, as the result of morbid changes in the higher neurones of the cerebral cortex in association with (acute) symptoms of mental alienation and such a degree of mental confusion as is the necessary concomitant of these morbid changes, a certain degree of neuronic dissolution results. This finds its symptomatological expression in a grade of dementia which varies in degree from "mild" to "moderate," and it exhibits from the physical aspect certain intra-cranial morbid changes which have been described in the first part of this paper (*Journal of Mental Science*, April, 1905), under Groups II and III, namely "cases with slight morbid changes and where the pia-arachnoid strips rather more readily than natural," and "cases with moderate morbid changes, with subdural excess to the level of the tentorium, and where the pia-arachnoid strips readily." Such cases, as the acute morbid changes, which constitute the physical basis of the "acute" symptoms presented, result in the maiming or death of numbers of the affected higher cortical neurones, pass into, and then for long periods remain in, a stationary condition of mild or moderate dementia.

In the case, however, of the class at present under consideration, that of progressive senile dementia, no such stationary condition of dementia ensues, but dissolution of the higher neurones of the cortex progresses more or less rapidly until the centre of higher association is practically non-existent, extensive dissolution of many of the regions of lower association has resulted, and the patient is consequently in a condition of gross dementia.

This result is due, as has already been shown in summary at the commencement of this section and demonstrated at length in the first part of the present and also in a previous paper, to the existence of gross degeneration of the cerebral vessels. In some

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cases this morbid condition is present at the time of onset of the attack of insanity, and in others gross degeneration of the cerebral vessels gradually develops in stationary cases of moderate dementia. In all such cases, however, whether the cerebrum is beginning to break down or dissolution has already progressed to the "moderate" stage (Group III), the determining cause of a more or less rapidly progressive dissolution of the centre of higher association is the presence or incidence of gross degeneration of the cerebral arteries.

Whilst, as a rule, at any rate in comparison with dementia paralytica, relatively little reparative reaction occurs in the extra-neuronic elements of the encephalon owing to the degenerative or "wearing out" nature of the whole process, in many cases a "vicious circle," similar to that commonly occurring in dementia paralytica, undoubtedly develops—neuronic dissolution being followed by reparative reaction and this by further and secondary neuronic dissolution—and increases the rapidity with which the final result is attained. The progress of the dissolution is also in many cases assisted by temporary and local thromboses, which frequently find symptomatological expression in "seizures" accompanied by temporary paresis and homologous, in the opinion of the writer, with the "seizures" which so commonly occur in dementia paralytica.

Progressive senile dementia thus differs markedly, both in its pathology and in its termination, from the types of dementia which have already been considered. As, however, the essential feature of progressive senile dementia is a senile dissolution of the higher neurones and of many of the lower neurones of the cortex cerebri, the correctness of the inclusion of this type of dementia under the terms "mental disease," or "insanity," may be taken for granted.

It is, however, necessary, as will be seen later, to adopt a different course in the section dealing with dementia paralytica. It will consequently be found that the greater portion of the section referred to deals with evidence which, in the view of the writer, conclusively shows that dementia paralytica is also a branch of insanity or mental disease, and is not a specific organic disease of the cerebrum. In other words, whilst progressive senile dementia requires no justification for its inclusion in the present group of "Progressive and Secondary

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Dementia," such justification is needed, and will be produced, in the case of dementia paralytica.

Certain of the more important features of the morbid anatomy, pathology, and symptomatology of progressive senile dementia will now be referred to. As, however, the morbid anatomy of mental disease has already been considered at length in Part I (*Journal of Mental Science*, April, 1905), and in Part II (*Journal of Mental Science*, April, 1906), and as the symptomatology of mental confusion and its relationship to that of dementia have been fully discussed in Part II (*Journal of Mental Science*, July, 1906), only those details of morbid anatomy and symptomatology in which progressive senile dementia differs from primarily neuronic dementia will be introduced.

Morbid Anatomy and Pathology of Progressive Senile Dementia.

Though naked-eye *degeneration of the cerebral arteries* is not one of the morbid changes which necessarily occurs in primarily neuronic dementia, it is, as has already been stated, a necessary factor to the development of progressive senile dementia. Cerebral vascular degeneration may exist in the absence of dementia. Though evidence of senility or prematurely produced senility of the cerebral arteries, it is not a necessary consequent of old age. On the other hand, the grosser forms of dementia never exist in the absence of macroscopic, or, at the least, of microscopic, signs of severe degeneration of the cerebral arteries, even in cases which have not attained to the senile period of life. Finally, in recent senile cases, with the mildest dementia but considerable mental confusion, which, had they lived, would on clinical grounds have been expected to develop gross dementia, the percentage of naked-eye degeneration of the cerebral vessels is so high as to justify the assumption that, were it possible to invariably make a certain diagnosis, this morbid change would be found to be a constant feature of such cases.

Such, in brief, are the chief facts on which is based the conclusion that a causal relationship exists between degeneration of the cerebral arteries and the development of the grosser forms of dementia; and the writer therefore places degeneration of the cerebral arteries first on the list of the morbid appearances which are found in senile progressive dementia.

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As has been pointed out in the first part of this paper, the intra-cranial morbid appearances which are found in such cases of mental disease as during life exhibited a greater or a lesser amount of dementia, namely, chronic degeneration and fibrosis of the dura mater, excess of intra-cranial fluid, subdural deposits, chronic thickening of the pia-arachnoid, etc., are the macroscopic equivalents of, and vary in degree with, the grade of dementia which is present, and are otherwise independent of the duration of the insanity.

In the several types of "primarily neuronic dementia," such morbid appearances, in agreement with the amount of dementia, are not as a rule present in more than a moderate grade of severity (Group III). On the other hand, in the two classes of "progressive and secondary dementia," namely, "progressive senile dementia" and "dementia paralytica," these morbid appearances in advanced cases attain their maximum intensity (Groups IV and V), in association with the existence of gross dementia and more or less complete dissolution of the cortical neurones of higher association and of many of those of lower association.

These morbid appearances are the physiological results of the loss of cerebral substance, caused by the degeneration of the cortical neurones, which is the physical expression of dementia, reacting on the mechanical conditions existing within the cranial cavity. The skull is a closed bony chamber, and were the neuronic dissolution ever so slow in its progress, replacement of the lost cerebral tissue could not well be fully performed by a chronic hypertrophy of the inner wall of the skull-cap and of the cerebral membranes. The progress of neuronic dissolution is, as a rule, however, by no means slow, and in cases of progressive dementia it is relatively rapid, and often very rapid. In consequence of this, the cerebral membranes, especially the pia-arachnoid, make a hopeless attempt at the formation of replacement or scar-tissue, and what space cannot be filled up in this way is replaced by cerebro-spinal fluid.

The writer feels that he cannot too strongly or too frequently insist on the importance of *excess of intra-cranial fluid* in the pathology of dementia. This excess is so commonly neglected in descriptions of intra-cranial morbid changes in favour of gross or fine changes in the dura mater, the pia-arachnoid, or the cerebrum, that it might almost be supposed to be value-

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less as a criterion of the degree of cerebral wasting which is present.

Under normal conditions, as has been shown by Leonard Hill, the intra-cranial fluid is minimal in amount, and this is also the case in all types of uncomplicated amentia or cerebral sub-evolution.

In cases, however, in which but a moderate grade of dementia exists, there is in the majority of cases such an excess of intra-cranial fluid as extends up to, or even above, the level of the tentorium, as well as considerable cerebro-spinal fluid in the pia-arachnoid and the ventricles; and a much greater excess exists in cases of progressive dementia, even when these are only reasonably advanced.

In the case of sub-dural excess alone in senile progressive dementia, for example, in the ninety-two cases contained in Group IV and the seventy-nine cases contained in Group V, which are referred to in the first part of this paper, excess of subdural fluid exists in all. In Group IV it is "slight" in 5·4 *per cent.*, "moderate" (*i.e.*, to the level of the tentorium) in 27·2 *per cent.*, and "great" in 67·4 *per cent.*; and in Group V it is "moderate" in 17·7 *per cent.* and "great" in 82·3 *per cent.*

This excess of intra-cranial fluid, which primarily occurs to replace loss of cerebral substance in the closed bony chamber, interferes with the normal relationship of the pia-arachnoid to the dura mater, and converts a potential space into an actual one full of cerebro-spinal fluid. This fluid, which is often abnormal in composition, necessarily predisposes to the development of a chronic degenerative process in both the dura mater and the pia-arachnoid, as does also the hopeless attempt at the formation of replacement or scar-tissue which is made by these membranes. Hence, any more or less sudden alteration of intra-cranial tension, due, *e.g.*, to a convulsion, a trauma, etc., or even to the change in blood-content from the arterial to the venous side, which occurs at or shortly after death, tends to cause an effusion of blood from the degenerate and often dilated vessels (arteries or veins) of the dura mater, the pia-arachnoid, or both. This effusion, whether recent or partially organised, single or multiple, constitutes the "*sub-dural deposit*," which is so relatively common in cases of well-marked dementia, and particularly so in cases of advanced progressive dementia.

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In the 433 cases referred to in the first part of this paper, for example, in Group I (no dementia), sub-dural deposits existed in 3·1 *per cent.*, and in Group II (slight dementia) they existed in 5·2 *per cent.* All these deposits were of an accidental nature or were recent and sufficiently explicable on general pathological grounds by the cause and mode of death.

In Group III (moderate dementia) these deposits existed in 17·8 *per cent.* of the cases; in Group IV (severe dementia) they existed in 17·4 *per cent.*, and in Group V (gross dementia) they existed in no less than 22·8 *per cent.* of the cases.

Extensive morbid changes in the pia-arachnoid are a constant feature in progressive senile dementia, and the relative severity of these is well illustrated by the following data.

In cases without dementia (Group I) the pia-arachnoid, except in cases of cerebral œdema due to systemic causes, strips naturally. In cases of mild dementia (Group II) this membrane is slightly thickened and strips rather more readily than natural in 74 *per cent.* of the cases, and readily in another 20 *per cent.* In cases of moderate dementia (Group III) it is thickened and at times slightly opaque, and it strips readily in 82 *per cent.* of the cases and very readily in another 16 *per cent.* In cases of severe dementia (Group IV) it is opaque and much thickened and it strips readily in 13 *per cent.* of the cases, very readily in 83 *per cent.* and like a glove in 4 *per cent.* Finally, in cases of gross dementia (Group V), it is very opaque and markedly thickened, and it strips readily in 1 *per cent.*, very readily in 41 *per cent.*, and like a glove in 58 *per cent.*

The final important morbid appearance in senile progressive dementia, namely *cerebral wasting*, will now be considered.

It is usual, even in relatively recent cases in which incomplete removal of the products of neuronic dissolution has occurred, to find the cerebral wasting quite pronounced, and this is still more evident in cases of chronic type. In many of the latter, however, before the hemispheres have been stripped, the wasting is by no means evident, in consequence of the opacity of, and still more, of fibrotic contraction of the pia-arachnoid. The difference in the appearance of a hemisphere before and after stripping is, in fact, in many cases, quite remarkable.

Whilst individual variations in the relative degrees of wasting exist, which may by future study be associated with differences

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in symptomatology, the regions of wasting are on the whole very definite, and by practice can be determined with considerable accuracy.

In uncomplicated cases there is a clear relationship between the grade of dementia and the degree of wasting present, and, therefore, cases of progressive senile dementia, as a rule, present the most clearly-marked examples of the cortical wasting which has developed *pari passu* with dissolution of the higher neurones of the cerebrum.

These regions of wasting are as follows:

(1) The greatest amount occurs in the prefrontal region (the anterior two-thirds or so of the first and second frontal convolutions, including the neighbouring mesial surface, and the anterior third or so of the third frontal convolution).

(2) The wasting is next most marked in the remainder of the first and second frontal convolutions. [In dementia paralytica Broca's convolution should, as a rule, be included here, and (2) and (3) should follow (4)].

(3) It is, perhaps, next most marked in the ascending frontal and Broca's convolutions, though this grade should, in many cases at least, follow (4).

(4) It is next most marked in the first temporal convolution and the insula, and in the superior and inferior parietal lobules. In practically all cases it is more marked in the two former than in the two latter.

(5) It is least marked in the remainder of the cerebrum (including the orbital surface of the frontal lobes), particularly the inferio-internal aspect of the temporo-sphenoidal lobe and the posterior pole of the hemisphere.

In the experience of the writer exceptions to this general order are invariably due to vascular or traumatic causes, and should, therefore, be excluded from the ordinary and normal wastings of dementia.

Such exceptions, however, occur not uncommonly in progressive senile dementia, owing to the extensive degeneration of the cortical arteries, which is a constant feature of these cases. The writer here refers not to definite old or recent softenings, but to more or less extensive atrophies of convolutions, which commonly exhibit vermiform or cross-striated markings, and are obviously due to local ischæmias in the distribution of (chiefly) the anterior and middle cerebral arteries. Such

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exceptional regions of wasting are, however, quite readily separable from the normal wasting caused by dissolution or retrogression of the centre of higher association.

They are chiefly found in cases in which acute exacerbations of symptoms, in the form of severe mental confusion with or without convulsions followed by temporary paresis, have occurred; and they are usually absent from cases which have undergone a steady progress to gross dementia. Further, these local wastings are, in the experience of the writer, absent from cases which have for years exhibited stereotyped and repeated motor phenomena, and from the occasional cases of Huntington's chorea which have come under his observation. It is probable that such motor exhibitions are homologous with such normal phenomena of senility as lower jaw and manual movements.

Cases presenting such local atrophies form, in fact, a half-way house between cases of ordinary gross dementia and cases of gross dementia which also exhibit gross lesions of the cerebrum of vascular origin.

The regions of wasting, which have been described above will now be further demonstrated by means of illustrative cases.

On Plate IV are exhibited photographs of two hemispheres from well-marked cases of progressive senile dementia. In both instances the regions of wasting are obvious, but they are especially evident when the figures are compared with the illustrations on Plates I, II, and III. It may be remarked that all the hemispheres illustrated on the plates are of exactly the same relative size.

On Plate I are shown the small and very simply convoluted hemispheres of a case of imbecility with epilepsy. In this case there were no dementia, no cerebral wasting, and no excess of intra-cranial fluid, and the stripped right and left hemispheres weighed respectively 475 and 470 grm.

On Plate II are illustrated the very small and simply convoluted hemispheres of a normal degenerate who died of the secondary intra-cranial effects of middle-ear disease. In this case there were no dementia, no cerebral wasting, and no excess of intra-cranial fluid. The stripped hemispheres weighed but 430 grm. each, a weight which is almost incompatible with continued existence outside an asylum. This patient would probably, in fact, have died at home or in a hospital had he possessed a cerebrum large enough to withstand the stress of

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PLATE I. FIG. 1.

Cerebrum small and very simply convoluted; no morbid appearances. (*Group I.*)

Photograph of the hemispheres of a case of imbecility with epilepsy. The hemispheres are small and very simply convoluted, but are otherwise of normal appearance.

History.—Male, æt. 47, single, organ blower. He is stated to have got on fairly well at school, and to have suffered from fits since the age of fifteen years. In Claybury Asylum during the last five years of his life. He was simple and childish, and unable to give a connected account of himself. He was unintelligent, and possessed deficient reasoning powers. He was untidy in his appearance, and took little interest in his surroundings.

Post-mortem.—Dura and S.D.: Natural; no excess. Pia: Natural; strips naturally. S.A.: No excess. Vents.: L., normal; IV, a few granulations in the lateral sacs. Vessels: Natural. Encephalon: 1,143 grm. Cerebellum, etc.: 163 grm. R.H.: 485 grm.; stripped 475 grm. L.H.: 490 grm.; stripped 470 grm. Cause of death: Congestion of right lung; cardiac failure.

[*Note.*—The illustrations on this and the following plates are all of exactly the same relative size.]

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PLATE I.

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FIG. 1.

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FIG. 2.

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PLATE II. Fig. 2.

Cerebrum simply convoluted and very small; no morbid appearances beyond œdema due to the local disease. (*Group I.*)

Photograph of the hemispheres of a case of extra-dural and cerebellar abscess. The hemispheres are very small; the right is fairly and the left simply convoluted. The brain is otherwise normal in appearance.

History.—Male, æt. 39. Father suffered from paralysis. Married nineteen years, eight children alive. Had lead poisoning six years ago. He exhibited symptoms for a month before, and died thirteen days after his admission to Claybury Asylum. He exhibited physical symptoms which suggested general paralysis. He was confused, helpless, and defective in his habits. He had a convulsion five days after his admission.

Post-mortem.—Dura and S.D.: Natural; no excess. Pia: Much œdema; strips like a glove everywhere. S.A.: No excess. Vents.: L., slightly dilated; IV, granulations in lateral sacs. Vessels: Natural. Encephalon: 855 grm. Cerebellum, etc.: 125 grm. R.H.: 430 grm.; stripped 408 grm. L.H.: 430 grm.; stripped 410 grm. Cause of death: (*a*) Pneumonia; (*b*) abscess of cerebellum, local meningitis, extra-dural abscess, necrosis of petrous bone, middle-ear disease.

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PLATE III. FIG. 3.

Cerebrum very large and of an exceedingly complex convolutional pattern; morbid appearances slight. (*Group II.*)

Photograph of the left hemisphere of a case of presenile melancholia with mild dementia. The brain was very large, and the convolutional pattern of the hemisphere illustrated is exceptionally complex. Little or no wasting is visible in the photograph.

History.—Male, æt. 51, merchant. Causes of attack are stated to be heredity of insanity, influenza, and business worries. In Claybury Asylum three and a half months. Patient was a man of considerable intelligence. On admission he had a haggard and anxious expression, and was extremely depressed. He replied to questions slowly and with reluctance. He was very introspective. He was much worried by "voices," but could not tell what they said. He stated that he would like to die, as he had lost large sums of money and was tired of life. He was very unwilling to give any account of himself. He continued depressed, listless, and taciturn, lost flesh, and soon began to refuse his food. Eight weeks after admission he was fed daily by tube for some weeks, and on every occasion he strongly resisted. He then began to feed himself, and stated that he had refused his food owing to the fear of being poisoned. He rapidly lost flesh almost from his admission to the asylum, and died after three and a half months' residence.

Post-mortem.—Dura and S.D.: Natural; no excess. Pia: Slight fronto-parietal milkiness and thickening. S.A.: Slight excess. Vents.: L., natural; IV, granulations in the lateral sacs. Vessels: Natural. Encephalon: 1,645 grm. Cerebellum, etc.: 205 grm. R.H.: 720 grm. L.H.: 705 grm.; stripped 680 grm. Cause of death: Cardiac failure, hypostatic pneumonia. The body was extremely emaciated.

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FIG. 3.

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FIG. 4.

FIG. 5.

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PLATE IV. Fig. 4.

Cerebrum exhibits the morbid appearances associated with severe dementia (Group IV). Hemispheres were probably, in their original state, of average size and convolutional pattern.

Photograph of the left hemisphere of a case of marked dementia (Group IV). The figure shows wasting, which is very marked in the prefrontal region, marked in the rest of the frontal region, the superior parietal lobule, the anterior part of the inferior parietal lobule and the first temporal gyrus, and less marked elsewhere.

History.—Female, æt. 89, widow. No family or personal history. Died in Claybury Asylum after a residence of five and a half years. On admission was talkative and reacted well to questions. She had delusions of persecution by electricity. Her memory was very good for her age. Two years later she was noisy and troublesome, had delusions on the subject of marriage, worked in the needle-room, and had developed dementia. Later on she constantly heard voices, and she was at times very noisy, and she became very demented before her death.

Post-mortem.—Dura: Adherent in the left frontal region. S.D.: Moderate excess. Deposit: Large recent film, as thick as brown paper, in the left middle and posterior fossæ above the tentorium; scattered blood-flakes elsewhere. Pia: Fronto-parietal opacity and considerable thickening; strips very readily. S.A.: Considerable excess. Vents.: L., moderately dilated; IV, lateral sacs slightly granular. Vessels: Markedly atheromatous. Encephalon: 1,150 grm. Cerebellum, etc.: 135 grm. R.H.: 492 grm.; stripped 455 grm. L.H.: 485 grm.; stripped 446 grm. Cause of death: Broncho-pneumonia, senile decay, marked renal cirrhosis, vascular degeneration, and cardiac hypertrophy.

Fig. 5.

Cerebrum exhibits the morbid appearances associated with gross dementia (Group V). Hemispheres were probably, in their original state, of average size and convolutional pattern.

Photograph of the left hemisphere of a case of gross dementia (Group V). The figure shows wasting which is extreme in the prefrontal region, very marked in the fronto-parietal region, and less marked elsewhere.

History.—Female, æt. 75, milliner. No family or personal history. Died in Claybury Asylum after a residence of five years. On admission was confused and had no idea of time or place. Was restless, fearful and somewhat resistive, and was of defective habits. Two years later she did not know her name or age, was unable to look after herself, and was wet and dirty. At the time of her death she was at times restless and noisy, and was quite helpless and grossly demented.

Post-mortem.—Dura: Some congestion in occipital region. S.D.: Enormous excess. Pia: Considerable fronto-parietal opacity and thickening, nearly natural elsewhere; strips like a glove in the frontal region and the first temporal gyrus, readily over the parietal lobules, and nearly naturally on the orbital surface, the lower temporo-sphenoidal region, and the occipital pole. S.A.: Great excess, largely under arachnoid. Vents.: L., much dilated; IV., granulations in lateral sacs. Vessels: Considerable atheroma throughout. Encephalon: 1,045 grm. Cerebellum, etc.: 145 grm. R.H.: 410 grm.; stripped 370 grm. L.H.: 418 grm.; stripped 383 grm. Cause of death: Gangrene of the right lung, recurrent carcinoma of breast, vascular degeneration.

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the disease. Under the circumstances, however, he presented such mental symptoms as relatively obscured those of his physical disease and suggested that he was suffering from early and acute general paralysis. This case, in fact, is an illustration of a truth which the writer considers to be beyond the range of controversy, namely that whilst great individual variations in the weight of the cerebrum are compatible with permanent sanity, a minimum weight (probably about 500 grm. per hemisphere) nevertheless exists, below which this is difficult or impossible to preserve.

It will be noted that whilst the hemispheres of this case are simply convoluted, those of the case illustrated on Plate I are still more so. In agreement with this detail the latter patient was an imbecile organ-grinder who suffered from epilepsy, and who resided in an asylum for the five years preceding his death.

On Plate III is shown the left hemisphere of a merchant of considerable business ability who suffered from presenile melancholia with a mild grade of dementia. In association with this there existed some excess of intra-cranial fluid. The unstripped right and left hemispheres weighed respectively 720 and 705 grm., and the left hemisphere in its stripped condition weighed no less than 680 grm. The slight degree of cortical wasting which exists is not obvious in the illustration. The convolutional pattern is exceptionally complex and the hemisphere contrasts markedly with those illustrated on Plates I and II, and especially so when it is borne in mind that all are of exactly the same relative size.

On Plate IV are illustrated the left hemispheres of two cases of progressive senile dementia. These illustrations present very different appearances from those exhibited by the other figures, which, for purposes of comparison, are shown in the preceding plates.

Fig. 4 is a photograph of the left hemisphere of a case of marked dementia (Group IV). The patient, a female, died at the age of eighty-nine years, after a residence of five and a half years, during which dementia gradually developed. She died before the final stage of cerebral dissolution had been reached. The cerebral arteries were markedly atheromatous. There was considerable excess of intra-cranial fluid and also a large recent subdural deposit. The stripped right and left hemispheres

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weighed respectively 455 and 446 grm., and they had probably originally been of average size and of nearly average convolutional pattern. The wasting is very marked in the prefrontal region, marked in the rest of the frontal region, the superior parietal lobule, the anterior part of the inferior parietal lobule and the first temporal gyrus, and less marked elsewhere.

Fig. 5 presents a still greater contrast to the hemispheres illustrated on Plates I, II, and III. It represents the left hemisphere of a case of advanced progressive senile dementia (Group V). The patient, also a female, died at the age of seventy-five years, after a residence of five years, in the final stage of cerebral dissolution. The cerebral vessels were atheromatous. There was enormous excess of intra-cranial fluid. The stripped right and left hemispheres weighed respectively 370 and 383 grm. The cerebellum, however, weighed 10 grm. more than did that of the last case, and therefore, presumably, the cerebral hemispheres had also originally been of greater weight than those of the last case. It is hence probable that the hemispheres of the present case had been originally of at least average size and convolutional pattern. The wasting is extreme in the prefrontal region, very marked in the fronto-parietal region and in the first temporal gyrus, and quite evident, though less marked, elsewhere.

Judging from his general experience as well as from these two individual brains, the writer considers the former to be the more degenerate and the latter to be the less durable cerebrum. The progress of the cerebral dissolution in the first case was relatively slow, in spite of the great age of the patient, and of the presence of gross degeneration of the cerebral vessels. This indicates the existence of a certain degree of neuronic durability. The cerebral hemispheres had also, in their original condition, probably been the smaller and rather the more simply convoluted of the two. On the other hand, in the latter case, cerebral dissolution had, when the patient died, progressed to about the maximum degree which is compatible with life.

Symptomatology of Progressive Senile Dementia.

It is unnecessary to introduce here a detailed description of the symptomatology of progressive senile dementia, as the subjects of mental confusion and dementia have already been

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considered at length in a previous section (*Journ. Ment. Sci.*, July, 1906). On reference to this section it will be seen that both the symptomatological differences between simple and presumably recoverable mental confusion and the mental confusion of progressive senile dementia, and also the more complex phenomena of lower association which are frequently presented by the latter type of mental disease, have been fully referred to.

The present purpose of the writer will therefore be served by the repetition of a case which illustrates with exceptional clearness the chief characteristics of the mental confusion of progressive senile dementia. The interest of this case is increased by the fact that the exciting cause is stated to be intemperance, for this factor has not in any way obscured the details of symptomatology to which it is necessary to draw the attention of the reader.

CASE 21.—*Admitted September 22nd*, 1904 (Hellingley Asylum). Exciting cause, intemperance. Duration prior to admission said to be fourteen days.

Female, married, nurse, æt. 75. Admitted four days ago.

A wrinkled old woman who says that her name is "Sarah C—x, a large family we are." This is her married name and her maiden name was H—s. She then states that she married again and that her present name is W—m. (Isn't your name Mrs. B—d?) "I am, sir, because I was a widow and married Mr. R. B—d." She recognises the nurse as "Mrs. W—m's daughter. Mrs. P—r it was once I know. Weren't your grandmother's name P—r?" She then tells me that the nurse is "Mrs. P—r's grand-daughter, isn't it? I know the old lady and I know your mother." She states that she has seen me before at Bishopstoke. She does not know whether my name is P—r or not. "I know Mr. P—r and Mrs. P—r and thought you were Mr. P—r." She calls a patient named M. B—d "Mrs. T—r," and another named S. P—x "Mrs. P—r," and a nurse "Mrs. P—r's daughter." She thinks to-day is Sunday (Monday), and that the date is the 25th or 26th (26th). She replies that the month is "not February is it?" (September), and that the year is "I don't know whether it is 101 or 102" (1904). (Age?) "I'm getting on for forty. It's a nice little age, isn't it? I suppose you're beginning to shave it, aren't

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you?" (Out to-day?) "Yes, I've been out to see the cricket match to-day." She states that she saw her husband at Bishopstoke this morning. She brought her husband's breakfast home with her—bread, butter, and oysters. I tell her that I don't know a *soul* in Bishopstoke, and she remarks, "A *soldier* there, are you?" She replies that she has children at home. The youngest is five or six, and she has twenty-five living, and thinks it likely that she will have another to make twenty-six. When asked where she is she replies that it is "about one mile from Bishopstoke Station here." When again asked the same question she remarks, "Very nice place, I like it very well. I should think it was a bonny place myself." I then ask her if she is a country woman, and she replies, "Southampton woman." She answers questions quickly and apparently rationally, but as a whole does not volunteer much information about herself. She laughs and looks about slyly from face to face as if she thinks that she is amusing. She has evidently lived a rather dissolute life, as she says, "I went to Bishopstoke this morning. I enjoyed myself I can tell you. I always do when I go on the spree. I was along with your nephew last time I saw you, and with his father this morning." She is very erotic. When I touch her chin to get her to open her mouth she tells me I am a rascal, and that "he thought he'd tickle me under the chin." She is wet and dirty in her habits, but is quiet and no trouble, and she takes her food well.

This patient died two and a-half months after admission in a condition of advanced dementia.

The chief details of importance which are exhibited by this case are the following:

(1) The patient does not know the time of year.

(2) She gives her first married name instead of her present one.

(3) She states that she is "getting on for forty," whereas she is seventy-five years of age.

(4) She confabulates readily, *but the psychic phenomena which are evolved are, on the whole, impossible as statements of fact, and are largely based on groups of memorial units dealing with her early life.*

(5) She has well-marked illusions of identity, *but she continually employs the same name, "P—r," in her identifications.*

In all these points the case differs from one of presumably

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recoverable mental confusion, and shows evidence of the mental confusion of progressive dementia. Other similar examples have also been cited and discussed in the section referred to—*e.g.*, Case 3, pp. 437–438, and Case 12, pp. 452–455.

As the various phenomena of lower association which frequently occur in cases of progressive senile dementia are, in reality, closely connected with, and, in fact, part of, the existing mental confusion, and as they are thus the symptomatological expression of active neuronic dissolution, the writer has not employed them as a basis for the elaboration of clinical types.

The cases falling into the group of progressive senile dementia have therefore been grouped as follows:

	M.	F.	T.
Sub-class (1): Melancholia with dementia .	3	2	5
Sub-class (2): Mania with dementia . .	–	5	5
Sub-class (3): Simple dementia . . .	6	8	14
Total . . .	9	15	24

The cases of progressive senile dementia thus form the small proportions of 5·4 *per cent.* of the 445 cases of dementia under consideration, and 3·3 *per cent.* of the total of 728 cases of amentia and dementia.

This point is interesting in view of the fact that the cases are derived from the largely agricultural population of East Sussex. Though the writer has no statistics at his disposal, he is nevertheless quite certain that progressive senile dementia is much more common amongst the insane derived from the great centres of population, and he is also inclined to think it more common in Lancashire than in the County of London.

As would be expected, very few cases of progressive senile dementia are capable of useful work. Of the nine males, seven were unemployed and two did a little work; and of the fifteen females, thirteen were unemployed and two did a little work.

Class (B).

Dementia Paralytica (General Paralysis).

Though earlier in this section the writer has indicated the existence of certain types of progressive dementia, which are, from the aspect of general pathology, homologous with dementia

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paralytica, these types are so unimportant from the clinical aspect owing to their rarity, and they are consequently at present so undefined, that he proposes to confine his attention in the following description to dementia paralytica alone.

It is not his intention to discuss, or even to enumerate, the various views which have been enunciated with regard to the causation and general pathology of this clinical entity.

The question as to whether dementia paralytica is primarily a meningo-encephalitis or a primary degeneration of the cortical neurones is now chiefly of historical interest, as it is very generally accepted that the essential histological features present consist on the one hand of a proliferation of the extra-neuronic elements, which is of different ages and of different degrees of severity according to the stage and type of the case, and on the other of a mixture of acute and chronic nerve-cell changes which also vary in type and extent in accordance with the clinical symptomatology manifested by the patient. It is probably quite unimportant to seriously discuss whether the former or the latter occurs the first, for, in the established morbid state, a "vicious circle" exists in which each factor in turn causes the other; and the writer hopes to make clear that there is every reason to believe that, under the influence of different exciting causes, either may originally form the starting point of the morbid process.

The opinion that syphilis, *i.e.*, *active infection by the Spirochæta ballida*, is the cause of dementia paralytica, owing to the frequency, or it may even be said the constancy, with which evidence is obtainable that the subjects of dementia paralytica have previously suffered from this disease, though widely held, is opposed by facts which, in combination, appear to be quite crucial. For example, on a liberal estimation probably only about 2 *per cent.* of the persons who have suffered from syphilis later on develop dementia paralytica. Again, general paralysis, even in the earliest stages, is quite intractable under anti-syphilitic treatment. Further, this symptom-complex develops at very variable periods after infection with syphilis, *e.g.*, from four to twenty-five years in the personal experience of the writer.

A serious attempt has recently been made by Ford Robertson to demonstrate that the essential cause of dementia paralytica is a type of diphtheroid bacillus to which he has applied the

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generic name of "*Bacillus paralyticans*," and of which he describes at least two varieties. The writer does not propose to discuss the views of Ford Robertson, as his investigations are not yet completed, as his conclusions are at present so entirely *sub judice*, and as these are diametrically opposed by the pathological, etc., considerations contained in the present paper. He thinks it desirable, however, without expressing any opinion, to draw the attention of the reader to the remarks he has already made with reference to Watson's experiments with abrin and ricin on the guinea-pig and rabbit, for these experiments have afforded results which, as far as it is possible to judge from Ford Robertson's descriptions, resemble those obtained by this investigator from his injection experiments.

The writer has already, earlier in this section, indicated his views as to the relationship, from the aspect of general pathology, which exists between dementia paralytica and progressive senile dementia, and as to the part played by a previous attack of syphilis in the development of the former of these types of progressive and secondary dementia.

In the following description, therefore, the ætiology of dementia paralytica will be considered mainly from the point of view of whether this clinical entity is a subdivision of mental disease, or is an organic disease of the cerebrum which merely in its symptomatology resembles insanity. If the latter were true the frequently expressed opinion that no anxiety need be felt regarding the future of the offspring of general paralytics would be justified, and dementia paralytica would bear no closer a relationship to mental disease than does cerebral tumour or cerebral abscess.

In the opinion of the writer, however, dementia paralytica is an integral part of mental disease, and, were syphilis non-existent, the majority of the existing cases of dementia paralytica would merely be replaced by cases of the primarily neuronic dementia which has already been considered. Of these cases the majority would remain in asylums as permanent inmates, and the rest would possess a sufficient remainder of intelligence to be discharged as "recoveries" or to the care of their friends. The writer thus hopes to demonstrate that the general paralytic is a lunatic who differs from the ordinary case of primarily neuronic dementia solely in having earlier in life suffered from syphilis.

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He believes that the ordinary sane individual and the ordinary psychopath or potential lunatic, who possesses cortical neurones of average durability, may suffer from syphilis with impunity as regards the later onset of dementia paralytica; and he would express the same opinion with regard to the syphilised lunatics with little or no dementia who are fairly common in asylums.

On the other hand, he thinks that a psychopath, who possesses cortical neurones of subnormal durability, and who, apart from an attack of syphilis, would develop a moderate grade of dementia as the result of one or more attacks of mental alienation, would, after an attack of this disease, sooner or later suffer from one or other of the types of dementia paralytica.

Further, since he considers, as has already been remarked, that the extra-neuronic reaction, which constitutes the essential feature of cases of dementia paralytica, is allied to, and only differs in type and degree from that occurring in cases of progressive senile dementia, he is of the opinion that whilst in ordinary life many psychopaths with deficiently durable cortical neurones manage to survive without the onset of an attack of insanity, all or nearly all such psychopaths would, if previously infected with syphilis, sooner or later develop (chronic) dementia paralytica.

This latter suggestion is founded on a basis of general pathology, but it is not contradicted by the estimate that about 2 *per cent.* of general paralytics occur amongst the former subjects of syphilis, as this probably roughly represents the percentage of psychopaths in the general population, this certainly being several times greater than the existing proportion of certified lunatics in England and Wales (1 in 282 in January, 1907).

Such an estimate is naturally not to be considered as other than suggestive, for even an approximate determination of the incidence of syphilis in England is impossible, and it is quite likely that the percentage of psychopaths amongst the subjects of syphilis may differ somewhat from that in the general population.

In the following description an attempt will be made to record in compact but intelligible form such data as the writer is able to produce with reference to the relationship of dementia paralytica to mental disease.

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The subject will be considered under the following headings:

(1) Evidence as to the existence of heredity of insanity and of parental and family degeneracy in the subjects of dementia paralytica.

(2) Evidence as to the relationship between dementia paralytica and mental disease, derived from the study of the death rates in mental disease (including and excluding dementia paralytica) at different ages, and from the comparison of these death rates with the homologous death rates in the corresponding general population.

(3) Pathological evidence as to—

(*a*) The relationship between the morbid anatomy and the regional cortical wasting of dementia paralytica and of progressive senile dementia.

(*b*) The existence of cerebral under-development in certain types of dementia paralytica.

(4) Evidence as to the relationship between dementia paralytica and mental disease, derived from a study of the clinical types of dementia paralytica.

(1) *Evidence as to the Existence of Heredity of Insanity and of Parental and Family Degeneracy in the Subjects of Dementia Paralytica.*

As has already been stated, the writer is of the opinion that the presence or absence of *heredity of insanity* in any case or series of cases possesses merely a relative value, as family and social conditions so largely decide whether any particular individual should be sent to an asylum or not. The equally and often more important evidence of *family or parental degeneracy* is frequently not available, and is usually not easy to obtain.

He thinks it more probable that isolated cases of insanity arise from the intermarriage of ill-assorted couples and mild degenerates, and that the severer grades of family degeneracy follow the intermarriage of definite degenerates, rather than that isolated examples of insanity in either parental stock will be followed by insanity in the offspring of such parents.

He would, in other words, place the percentage of heredity at 100 with regard to the offspring of either degenerate or "normal" individuals, and, without going so far as to assert that non-traumatic cerebral under-development or dissolution

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cannot occur in the absence of hereditary causes, would emphatically express his doubts with regard to its occurrence with any degree of frequency.

On the thesis that dementia paralytica were an integral part of mental disease, it would be expected therefore that a high percentage of heredity of insanity and of parental or family degeneracy would be obtained in a series of carefully taken cases, although this percentage, for the reasons stated, would necessarily fall far short of 100.

In a series of 85 cases of dementia paralytica which were published some years ago by the writer (*Arch. of Neurol.*, vol. ii), satisfactory family histories were obtained. These histories were the outcome of several hundred personal interviews with all the available relatives or friends of the patients, and of information collected by other means.

Much labour was expended on the subject, for the difficulties in the way of obtaining information concerning the family histories of cases of dementia paralytica are often very great, and particularly so in the case of patients of the male sex. The wife is frequently the only visitor, and it is quite common for the family of the patient to be unknown to her. This is more often the case with patients suffering from dementia paralytica than in other forms of insanity, for the former patients, owing to their previous dissipated and often wandering life, are frequently entirely out of touch with their relatives. The usual age of the subjects of dementia paralytica is again a serious drawback, as the older the patient is, the fewer are the available relatives who can give trustworthy information regarding the family history. Lastly, it is common for relatives to be informed that the disease is not insanity but is due to the former dissipated life of the patient, in order that their natural apprehensions concerning the future of the offspring may be relieved. They therefore tend to hide many facts of family history which they would otherwise have mentioned. The writer has in fact met with several instances in which the relatives, until definitely taxed regarding the correctness of some specific fact of history which had been accidentally acquired from other sources, stoutly denied the existence of any insanity in the family, and deliberately suppressed the name of the subject of this when first giving the history. Whilst such deliberate mis-statements are at times met with

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during ordinary history-taking, the writer is convinced that they are more frequently found in the case of the histories of general paralytics, the friends of whom are often only too anxious to accept former syphilis as the cause of the disease.

Of the eighty-five cases which will now be referred to, thirteen were private and seventy-two were rate-paid patients.

In 8 of the 13 private cases there was direct or collateral insanity; in 3 there were allied disorders, including epilepsy; in the twelfth the father died of cerebral hæmorrhage, and the mother of paralysis, and the patient was the youngest of a family of eight; and in the thirteenth the mother and sister died of phthisis, a brother was delicate, and eleven out of fourteen in the family were dead.

In one instance the parents were first cousins, and a paternal uncle and two female cousins were insane; four patients were the youngest in the family; and in three families there was a very high death rate. In four cases there was phthisis in the family (mothers and sisters), in two diabetes, and in one asthma.

Of the 72 rate-paid cases, *actual insanity* existed in 45 families (62·5 *per cent.*), and in 4 of these true epilepsy also existed, apart from the cases of insanity. *True epilepsy* existed in 5 other families without insanity (6·9 *per cent.*), though in one case it was probably associated with melancholia of pregnancy. Histories of insanity and epilepsy consequently existed in 50 of the 72 families (69·4 *per cent.*). In these fifty families, as further evidence of family degeneracy, there were disorders allied to insanity in at least sixteen instances (nervous diseases not being included).

In the 45 histories containing actual insanity there existed 65 insane relatives. These included 10 brothers, 10 sisters, 11 mothers, 7 fathers, 3 maternal grandfathers, 1 maternal grandmother, 2 paternal grandfathers, 1 maternal great-grandfather, 2 maternal uncles, 5 maternal aunts, 4 paternal uncles, 1 paternal aunt, and 8 collaterals (1 half-sister, 1 half-brother, 4 cousins, 1 father's maternal cousin, and 1 sister's son). Several of these insane relatives suffered from fits, and a few may have been cases of general paralysis, but no stress can be laid on this point, as the details available are insufficient.

Of the remaining 22 of the 72 cases, *psychopathy* (equals "border-land cases," and does not include examples of nervous

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disease) existed in 9 (12·5 *per cent.*), 2 brothers, 2 sisters, 3 mothers, and 3 sons being affected.

Of the remaining 13, there was *an abnormally high death-rate* amongst relatives in no less than 7 cases (9·7 *per cent.*).

Finally, of the remaining 6, in 3 there was *paralysis*; in one the patient was the *delicate child of the family* and did not walk until he was four years of age; and in the remaining 2 there was merely a history of alcoholic excess in the parents.

Hence, of the 72 histories of rate-paid patients, there was *psychopathic heredity* in no less than 81·9 *per cent.*, and an abnormally high family death rate in another 9·7 *per cent.* In the remaining 8·4 *per cent.* less important ætiological factors existed.

Phthisis existed in 19 of the 72 families (26·4 *per cent.*), in 8 affecting brothers and sisters, and in 6 the father's, in 4 the mother's, and in 1 both families.

Intemperance in alcohol existed in 26 of the 72 families (36·1 *per cent.*), both sides of the family suffering from the disorder in 7 cases, the paternal side in 12, and the maternal in 5; the remaining 2 cases occurred in sisters of the patients.

General or nervous diseases were ascertained to have existed in 19 cases (26·4 *per cent.*).

In 13 families (18 *per cent.*) there was an *abnormally high death rate*, it being so high in 7 of these that very few family details could be obtained.

The figures given above illustrate the high percentage of heredity of insanity and of parental and family degeneracy which occurs in dementia paralytica, and form the first part of the evidence which the writer is able to produce in support of the thesis under consideration.

He is, of course, aware that comparative observations on normal individuals and on ordinary cases of mental disease would be necessary in order that exact conclusions might be drawn regarding the respective degrees of degeneracy in these two classes and in dementia paralytica. Such observations would, however, necessarily have had to be made on exactly similar samples of population, and for these he had neither the time nor the opportunity. It is also extremely doubtful whether the results would have been of sufficient value to justify the expenditure of the necessary time and labour, even if it had been possible, as for practical purposes the only question it was necessary to settle was whether or not a high heredity of

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insanity and of parental and family degeneracy were obtainable in dementia paralytica.

The writer considered it desirable to carry out this investigation as there are few subjects on which greater differences of opinion exist than with regard to the question of the percentage of heredity of insanity in dementia paralytica.

That the figures he has given are higher than those published by most observers he admits, but he judges this to be due to the fact that in, at any rate, the majority of cases, the histories employed are such as are provided by ordinary case-book entries, and are not obtained as the result of laborious individual investigation.

In Table XXII of the *Sixty-first Report of the Commissioners in Lunacy* are given the proportions (*per cent.*) of the yearly average number of the total patients admitted to the asylums in England and Wales during the five years, 1901–5, in which certain assigned causes of insanity were found to exist. Those data which bear on the question under consideration are as follows:

Causes of insanity.	Proportion (*per cent.*) to the yearly average number admitted during the five years.	
	M.	F.
Hereditary influence ascertained . .	19·8	25·3
Congenital defect ascertained . .	6·3	4·1

As at least a large proportion of the histories of admissions to asylums are not taken at all, these figures are naturally much lower than such as would be obtained from the data provided by asylum case-books.

In his presidential address (*Journal of Mental Science*, October, 1902) Dr. Wiglesworth provides statistics of great interest in this connection. "My statistics deal with a series of 3,445 insane patients who have been admitted into Rainhill Asylum under my care during a period of twelve years, 1,693 of these patients being males and 1,752 females. It has not been practicable to include all cases that have passed through the asylum in the course of that period, as many patients come in of whose antecedents it is impossible to obtain any trace, but every patient

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has been included of whose family history any details whatever were obtainable."

These are shown in the following table:

Form of insanity.	Number of cases.			Number of these showing heredity.			Percentage of hereditary cases on total numbers.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.
Congenital insanity (idiocy and imbecility) with or without epilepsy . .	35	33	68	13	17	30	37·14	51·51	44·11
Epileptic insanity . .	77	43	120	15	23	38	19·48	53·48	31·66
General paralysis . .	363	70	433	60	22	82	16·52	31·42	18·93
Ordinary insanity (non-congenital)—mania, melancholia, dementia, etc.	1,218	1,606	2,824	331	484	815	27·17	30·13	28·85
All cases together .	1,693	1,752	3,445	419	546	965	24·74	31·16	28·01

It will be noted that the percentage of hereditary cases amongst the female general paralytics is slightly higher than that amongst the examples of ordinary insanity, whereas amongst the male general paralytics it is much lower. From the considerations already adduced it seems to the writer of the present paper to be at the least probable that this sex difference is largely or entirely due to the less satisfactory nature of the information which is usually obtainable regarding the personal and family history of male general paralytics. This explanation is supported by the fact that no such sex-difference existed in the case of the eighty-five histories referred to above. The private patients, for example, were all of the male sex.

It is true that in the above table a similar sex-difference exists in the case of the epileptics, the hereditary cases forming an extremely high percentage in the case of the females and a low one in the case of the males, in comparison with the respective percentages in the cases of ordinary insanity. Epileptic insanity, however, is so frequently the result of organic and traumatic causes that it falls into a different category from other cases of mental disease, and the number of cases (120), even when recruited from the cases of congenital insanity, forms

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an unusually low proportion of the total of 3,445 cases. Dr. Wiglesworth expressed this opinion as follows: "One cannot but think that this great difference must in part be due to accidental causes, and that if larger numbers were taken, the real disparity would be found not so great. Still, the figures certainly lead one to suppose that epilepsy in the male is far more of an acquired affection than it is in the female."

The percentages given in the case of congenital insanity are also of relatively slight value, for "the number of cases of congenital insanity admitted into Rainhill Asylum is a small one, due in part to the fact that, the asylum having been overcrowded for many years past, a restriction has been put upon the admission of this class of cases," and Dr. Wiglesworth adds "These cases have, however, been taken indiscriminately, and no endeavour has been made to exclude 'accidental' idiots from the list, whose idiocy may have been occasioned by accidents occurring during the process of birth. On account of the superior size of the male head, it is probable that there are more cases of this class amongst males than amongst females, and if all these cases (in which one might expect an absence of hereditary taint) were excluded, it would tend to make the difference between the two sexes somewhat less pronounced."

The important sex difference in the table, therefore, concerns the general paralytics, and this is, in the opinion of the writer, susceptible of the explanation he has given.

Hence Dr. Wiglesworth's statistics may be considered not to contradict the conclusions drawn from the personally obtained data which the writer has provided with reference to the existence in dementia paralytica of a high percentage of heredity of insanity and of parental and family degeneracy. Further, they are susceptible of the interpretation that the percentage in dementia paralytica does not substantially differ from that in ordinary mental disease.

(2) *Evidence as to the Relationship between Dementia Paralytica and Mental Disease, derived from the Study of the Death Rates in Mental Disease (including and excluding Dementia Paralytica) at Different Ages, and from the Comparison of these Death Rates with the Homologous Death Rates in the corresponding General Population.*

The writer has calculated the death rates at different ages

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amongst the insane of a certain asylum population. These death rates on the one hand refer to the whole of the asylum population, and on the other to the subjects of mental disease apart from dementia paralytica.

The object of the writer is two-fold. He proposes in the first place to compare the death rates of the insane with those of the corresponding general population, and in the second to determine what modifications of the former rates result from the exclusion of the cases of dementia paralytica.

The data employed with reference to the general population are the corrected death rates per 1,000 living in the County of London for the year 1905 (*Sixty-eighth Report of the Registrar-General,* Tables 16 and 17). The margin of error owing to the use of these data is inconsiderable, as the rates for neighbouring years are practically constant. It is necessary to assume that the death rates for the whole County of London and for its several larger sub-districts are the same, and this assumption may appear likely to cause a serious error. Such an error, however, if it exists, cannot be considerable, as the death rates in the County of London do not, as regards the present purpose of the writer, differ greatly from those of the total general population of England and Wales.

The data regarding the insane refer to the inmates of the London County Asylum, Claybury. The deaths employed are those included in Series B (*Journal of Mental Science,* April, 1905), together with the cases of dementia paralytica dying during the same period of twenty months, from October, 1901, to May, 1903, inclusive.

The number of deaths during the period under consideration was 311. Of these, 16 special cases (8 male and 8 female) suffered from gross lesions, etc., and were unclassified. These deaths are excluded, and an error of about 5 *per cent.* is thereby introduced throughout the death rates, as it is impossible to correct these by also excluding the living portion of the asylum population from which such "accidental" cases arise. This general lowering of the death rates, however, applies to all the tables, and is fairly evenly distributed through the decades, the eight male cases dying at ages varying from 21 to 77 years, and the eight female cases dying at ages varying from 27 to 67 years. This error, therefore, as will be seen, does not pre-

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judicially affect the conclusions which will be drawn from the death rates.

The cases employed thus include 127 males, of whom 83 are ordinary cases and 44 are general paralytics; and 168 females, of whom 150 are ordinary cases and 18 are general paralytics.

The annual death rates per 1,000 living at the eight age-periods which are dealt with are worked out from the estimated average population of the London County Asylum, Claybury, at these age-periods during the twenty months referred to.

In the first instance the rates are prepared from the total numbers of male and female deaths respectively and from the estimated total average male and female populations respectively, at the eight age-periods under consideration.

Further death rates are then prepared from the numbers of non-general-paralytic male and female deaths respectively, and from the estimated non-general-paralytic average male and female populations respectively, at these age-periods.

The estimated average population of the London County Asylum, Claybury, at the eight age-periods during the twenty months under consideration, is based on the returns of patients resident on December 31st, 1902.

The average general paralytic population during these twenty months is estimated by the writer, from data at his disposal, to be 121, of which 90 (or 9 *per cent.* of estimated average total male population) are males, and 31 (or 2·2 *per cent.* of estimated average total female population) are females.

Of the 90 males, 12, 29, 37, 8, 3, and 1 are estimated to belong to the second to the seventh age-periods respectively; and of the 31 females, 7, 15, 7, and 2 are estimated to belong to the second to the fifth age-periods respectively.

The estimated average general paralytic male and female populations are subtracted from the estimated average total male and female populations, in order to obtain the average non-general-paralytic male and female populations, which are employed for the preparation of the series of death rates on the fourth lines of Tables I and II respectively.

These death rates are shown on the following tables:

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TABLE I.—*Death-rates per* 1,000 *Living Males.*

Age periods.	15–	20–	25–	35–	45–	55–	65–	75–	85 and upwards.
A. London County, 1905	2·8	3·7	5·8	10·6	19·4	35·8	70·3	135·9	313·7
B. Series B + G.Ps. on estimated total average population at the several age-periods . . .	26		58	55	64	121	129	280	600
Ratio of B to A . .	About 8		10	5·2	3·3	3·4	1·8	2·1	1·9
C. Series B, on estimated total average population less estimated G.P. population at the several age-periods . . .	26		44	26	25	110	126	257	600
Ratio of C to A . .	About 8		7·6	2·45	1·3	3·1	1·8	1·9	1·9

TABLE II.—*Death-rates per* 1,000 *Living Females.*

Age periods.	15–	20–	25–	35–	45–	55–	65–	75–	85 and upwards.
A. London County, 1905	2·3	2·8	4·2	7·8	14·0	25·9	55·1	117·1	288·0
B. Series B + G.Ps. on estimated total average population at the several age-periods .	27		41	48	48	59	199	315	600
Ratio of B to A . .	About 10·6		9·8	6·2	3·4	2·3	3·6	2·7	2·0
C. Series B, on estimated total average population less estimated G.P. population at the several age-periods . . .	27		31	35	40	57	199	315	600
Ratio of C to A . .	About 10·6		7·4	4·5	2·9	2·2	3·6	2·7	2·0

It will be noticed that the death rate in the normal population nearly doubles itself at each decade, the rise being slightly more rapid throughout in the case of the males than in that of the females.

In the case of the total male insane population, as is shown both by the death rates (Table I, B) and by their ratios to the normal death rates, which are shown on the next line of the table, a rise also occurs throughout the age-periods, but this

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rise after the second decade becomes progressively less in comparison with the normal.

In the case of the total female insane population (Table II, B), a similar rise in the death rates occurs throughout the decades, but it is somewhat less than in the males in the earlier decades, and somewhat greater than in the males in the later.

The average total insane male death rate (not shown in the table) is 76·5, and the average female is 72·2. These thus differ slightly only, but this difference is in the same direction as that of the normal population, though it is less marked.

The death rates of the total insane of both sexes thus resemble those of the general population in forming an ascending series, the increments to which are, however, much greater than in the latter at first, but become proportionately less marked as the ages increase, this being especially evident in the case of the male sex.

In line C of the tables the death rates of the non-general-paralytic male and female insane population are given.

In the case of the females (to whom in the total number the general paralytics form a relatively small proportion), the ascending series of death rates (Table II, C, and also the ratios on the following line) is not markedly affected, though the death rates in the second and third, and to a less extent in the fourth, of the given decades are decidedly low.

In the case of the males, however (to whom in the total number the general paralytics form a relatively large proportion), the ascending series is entirely broken up at the third and fourth of the given decades, and the unexpected and curious result appears that *male lunatics have an extraordinarily low death rate between the ages of* 35 *and* 54. (Table I, C, and also the ratios on the following line.)

This result is so grossly marked that the only possible inference from the figures is that exclusion of the general paralytic members of the lunatic population is unjustifiable, and that therefore *cases of general paralysis form an integral part of mental disease.*

In other words, it is impossible to avoid the conclusion that, whatever be the cause of the particular symptom-complex known as general paralysis, the cases which exhibit this are nevertheless lunatics, and not merely the subjects of a disease of the brain of microbic or syphilitic origin.

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(3) *Pathological Evidence as to* (a) *the Relationship between the Morbid Anatomy and the Regional Cortical Wasting of Dementia Paralytica and of Progressive Senile Dementia, and* (b) *the Existence of Cerebral Under-development in Certain Types of Dementia Paralytica.*

In its essentials the morbid anatomy of dementia paralytica is that of ordinary progressive dementia. Certain important differences, however, exist, and these the writer considers to be largely or entirely due to the higher degree of reparative proliferation on the part of the non-neuronic elements of the encephalon which is present in dementia paralytica.

As in progressive senile dementia, so here, the grossly obvious features are cerebral wasting, and replacement of the lost cerebral tissue to some extent by reparative proliferation of the non-neuronic elements, but chiefly by a large quantity of intra-cranial fluid.

The following description will largely be confined to those appearances in which the morbid anatomy of dementia paralytica differs from that of progressive senile dementia, with the view of illustrating how these are due to differences in the immediate ætiology and in the course of these different types of dementia.

The cerebra of certain selected cases will then be illustrated and described with the object of demonstrating (*a*) that the wasting in dementia paralytica bears a close resemblance in distribution and degree to that occurring in progressive senile dementia, such a resemblance, in fact, as renders it impossible to avoid the conclusion that in both cases this wasting is the result of dissolution of the last evolved and functionally highest regions of the cortex, and (*b*) that cerebral under-development occurs in dementia paralytica just as it exists in ordinary mental disease, and that the naked-eye anatomy of the cerebrum gives as important evidence regarding the unity of dementia paralytica and ordinary mental disease as will next be produced with regard to the clinical types of dementia paralytica, and as has already been detailed from other aspects in the preceding sub-sections.

(A) *Morbid anatomy of dementia paralytica.*—In early and moderately developed, but less often in very advanced cases, the venules, etc., of the intra-cranial membranes and encephalon

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are intensely congested, a morbid appearance usual in *status epilepticus*, but not often seen in progressive senile dementia.

Even in relatively early cases the excess of *subdural fluid* is large, and in advanced cases it is as great as, or greater than, occurs in ordinary gross dementia.

In the 44 male cases already referred to, great or very great excess existed in 37, excess just over the tentorium in 2, moderate excess in 2, slight excess in 1 early case, and no excess in 2. Of the two without subdural excess, one was very recent and acute, and in the case of the other the subdural space contained 205 grm. of recent blood-clot.

Of the 18 female cases already referred to, a very great excess of subdural fluid existed in all.

This sex-difference is in all probability associated with the greater chronicity of the female cases.

A similar sex-difference exists with regard to the frequency of the *subdural deposits*, which are somewhat more common in dementia paralytica than in progressive senile dementia, except in the case of the severer grades.

Of the 44 male cases, subdural deposits occurred in 12, or 27 *per cent.*, and of the 18 female in 2, or 11 *per cent.*, the percentage in the case of the total of 62 being 22·6.

Of 85 male cases published in a previous paper, these deposits occurred in 25, or 29·4 *per cent.*, and of 38 female in 4, or 10·5 *per cent.*, the percentage in the case of the total of 123 being 23·6.

The percentages in these two series of cases are thus substantially the same. In both series also in each sex, half of the deposits were of recent date and the remaining half were more or less organised, and in several instances multiple.

In progressive senile dementia subdural deposits are rather less common, except in the very advanced cases.

In the case of the combined series A and B referred to in the first part of this paper, and including in all 433 cases of ordinary mental disease, these deposits existed in 17·4 *per cent.* of the 92 cases in Group IV (severe dementia) and in 22·8 *per cent.* of the 79 cases in Group V (gross dementia), the latter percentage being about the same as that indicated above as occurring in dementia paralytica.

In early cases there is little or no excess of *sub-arachnoid fluid*; in slow chronic cases there is often considerable excess,

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frequently in the form of scattered "arachnoid cysts"; and in advanced cases there is great excess, the prefrontal pia-arachnoid being in many instances ballooned out by the subjacent fluid.

In early cases the *pia-arachnoid* may superficially present few abnormal characters beyond a larger or smaller amount of congestion; in later cases it is, as a rule, immensely thickened and opaque, and stretches as a continuous sheet over and often entirely hides the subjacent sulci. The thickening and opacity are, usually, most marked over the fronto-parietal regions and the neighbouring median parts of the hemispheres, and also over the first temporal gyri. They are often not so marked in the prefrontal region, where the pia-arachnoid is raised up by subjacent fluid. The opacity may, however, be more widespread, and may even occupy the whole cerebrum except, apart from rare cases, the orbital surfaces of the frontal lobes, the lower and inner occipito-temporal regions, and the posterior poles of the hemispheres.

In progressive senile dementia the distribution of the opacity and thickening is similar to that described, but the fibrosis (and also the contraction) of the pia-arachnoid is commonly much less marked than in dementia paralytica.

Even in early cases of dementia paralytica the pia-arachnoid is granular in the mid-line prefrontal region below the falx cerebri, and pia adheres more or less firmly to pia in this position, the actual area of adhesion depending on the size and shape of the falx cerebri. In more advanced cases the adhesions in this region are dense, and the hemispheres cannot be separated without tearing the subjacent cortex. It is worthy of note in this connection that the region under consideration is the only part of the encephalon where pia meets pia, as elsewhere the pia lies in contact with the dura, to which, however, it only rarely forms adhesions.

Particularly in early cases, but also in later ones in the regions into which the morbid process is extending, the pia is adherent to the subjacent cortex. Later on, when the pia-arachnoid has become much thickened and the cortical wasting is pronounced, the membrane strips like a glove from the underlying cortex. Decortication on stripping is usually laid much stress on in descriptions of dementia paralytica, but it is an uncertain sign. The more chronic or the more advanced the case happens to be, the less is the decortication, and *vice-*

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versâ. Decortication, on the other hand, is much increased by œdema of the brain, and especially by *post-mortem* decomposition. It is largely obviated by the absence of these latter factors, but in early cases it very often occurs in the mid-line prefrontal region below the falx cerebri.

The peculiarly localised areas of adhesion between the pia and the cortex, which are usually situated on the flat external surfaces of the convolutions and do not reach to the fissure lips, strongly suggest a vascular causation. This is almost conclusively proved by the occasional occurrence, particularly in acute cases, of fairly extensive areas of adhesion which approximate very closely to known areas of arterial distribution.

This is finally proved by the fact that exactly similar regions of pial adhesion occasionally occur in cases of gross senile vascular degeneration (with or without dementia) and also in cases of progressive senile dementia. (*Archives of Neurology*, vol. ii, pp. 483–4, Case 201.)

The *lateral ventricles* in dementia paralytica are dilated, and often extremely so, and, with the *third*, are much more frequently granular than are these regions in progressive senile dementia. The *fourth ventricle*, however, exhibits, as a rule, the most characteristic naked-eye sign of dementia paralytica. Granularity of the lateral sacs of the fourth ventricle is common in all varieties of insanity, and in progressive senile dementia granules also at times exist on each side of the mid-line in the upper half of the lozenge. They, however, rarely or never occur in the lower half or calamus except in dementia paralytica, in which, even if the granularity is general, it is usually most marked in this situation.

The smaller *cortical arteries*, even in very early cases of dementia paralytica, are invariably fibrous, and in toughness resemble strands of thread or fine wire.

The *basal vessels* at times show no obvious naked-eye abnormality, but in many cases, and especially in such as have acquired syphilis at or after maturity, they are dilated and irregularly thickened owing to patches of pearly white fibrosis. They are occasionally small and fibrous. They are less frequently calcareous.

Of the 44 male cases of dementia paralytica referred to above, the basal arteries were affected to a greater or a lesser degree in 28, or 64 *per cent.*, and were apparently normal in 16, or 36

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per cent. In the 28 cases the affection was slight in 11, moderate in 10, and severe in 7. The average age of these 28 cases was 49 years, whereas in the case of the remaining 16 the average age was 38 years.

Of the 18 female cases, the basal arteries were more or less affected in 9, or 50 *per cent.* In these the affection was slight in 4, moderate in 2, and severe in 3. The average age of these cases was 47 years, whereas in the case of the 9 with apparently normal basal vessels the average age was 38 years.

The basal vessels were therefore more frequently affected in the case of the male sex. In the case of both sexes the average age of the patients with affected basal vessels was about ten years higher than that of the patients with apparently normal vessels.

These morbid appearances in the cerebral arteries resemble in their characters the dense, almost cartilaginous, pearly-white fibrosis of the often-dilated aorta which frequently occurs in dementia paralytica, and particularly so in cases over the age of forty years. These vascular changes, and particularly that in the aorta, are, in the experience of the writer, practically diagnostic of a former attack of syphilis, in that they represent an intense reparative reaction to previous severe injury, and at the same time are found in syphilised but not in non-syphilised subjects.

The vascular degeneration and nodular atheroma of the cerebral arteries which occur in senility and premature senility show, on the other hand, no such fibrotic appearances. In these cases, in association with and probably owing to the exceedingly feeble reaction of repair which they possess, a deposition of lime salts occurs and results in the better known calcareous degeneration.

As has already been stated, this condition of the cerebral arteries is practically constant in progressive senile dementia. On the other hand, in dementia paralytica, though naked-eye pearly fibrosis is not a constant feature, it is, when present, a highly characteristic morbid appearance.

The *cerebral wasting in dementia paralytica* often differs in degree from that found in progressive senile dementia. In fulminating cases of dementia paralytica death frequently occurs so rapidly that no time is allowed for the removal of the products of neuronic dissolution. On the other hand, in more

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chronic cases of dementia paralytica, the relative finality of the dissolution of the region of higher association and the organisation of the results of extra-neuronic reparative reaction more often result in very marked grades of cerebral wasting than is the case in progressive senile dementia.

As a preliminary to the description of certain selected cases of dementia paralytica which illustrate the more important appearances found in its different types and stages, the writer proposes to briefly refer to four cases which exhibit in the different sexes the essential features presented by the ordinary rapid and slow types of dementia paralytica.

These cases were published in full in the second volume of the *Archives of Neurology* as Nos. 212–215, and their morbid anatomy, in summary, is as follows:

The encephala of the females (Nos. 213 and 215) weighed respectively 985 and 782 grm. (average normal 1,275 grm.), and both in their remarkably low weights and in the simplicity of their convolutional patterns were markedly the brains of degenerates. Those of the males (Nos. 212 and 214) were much below the average normal weight of 1,400 grm., scaling respectively 1,205 and 1,225 grm., but they differed from the brains of the females in being convoluted in a fairly average manner.

Nos. 214 *and* 215. *Rapid spastic cases with very small and alternating pupils.*—In both cases there existed relatively little opacity and thickening of the pia-arachnoid, this occupying the fronto-parietal region; and there was only a moderate amount of wasting, which was chiefly visible in the prefrontal region.

Nos. 212 *and* 213. *More chronic cases without knee-jerks.*

No. 212. *Male.*—There was considerable fronto-parietal opacity and generally marked thickening of the pia-arachnoid, except at the occipital pole and on the under and inner part of the temporo-sphenoidal region and the orbital surface of the frontal lobe. In the region of the marked thickening, the pia-arachnoid stripped like a glove from the brain. The wasting was extreme in the *prefrontal region*, marked in the *first temporal gyrus and the inferior and superior parietal lobules*, rather less marked in *Broca's gyrus, and the posterior thirds of the first and second frontal gyri*, moderate in the *ascending frontal gyrus*, slight only in the *outer part of the temporo-sphenoidal and pre-occipital regions*, and almost absent in the *occipital lobe, the lower and*

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inner part of the temporo-sphenoidal region and the orbital surface of the frontal lobe.

No. 213. *Female.*—The pia-arachnoid showed considerable opacity and marked thickening, which was most obvious in the frontal lobe, the first temporal gyrus, and the superior and inferior parietal lobules. The wasting was extreme in the *prefrontal region*, marked in the *first temporal gyrus and the superior and inferior parietal lobules*, moderate in *Broca's gyrus and the posterior thirds of the first and second frontal gyri*, much less in the *ascending frontal gyrus*, and slight or absent elsewhere.

[*Note.*—The terms employed for the cortical regions in the above summary overlap somewhat, but are convenient for brevity of description.]

The above-mentioned morbid appearances agree closely with the clinical course of the dementia paralytica in the several cases. In the two which rapidly broke down, the total amount of intra-cranial fluid, the morbid state of the pia-arachnoid, and the grade of the cerebral wasting were all much less marked than in the two cases of chronic type, in which it may be presumed had occurred a more complete removal of the results of neuronic dissolution, and a greater degree of finality, as regards cell-death, in the degenerative process.

Though such morbid appearances as those just referred to are in average cases very definite and quite readily visible, the determination of regional grades of wasting, and also of the type of convolutional pattern as regards relative simplicity or complexity, is at times attended with much difficulty. This is especially the case when sub-development and wasting occur together, though experience and practice enable error to be largely eliminated.

The writer has, therefore, illustrated on Plates V to VIII, figs. 6 to 11, certain hemispheres of cases of general paralysis, which demonstrate the chief types of wasting and under-development which have come under his notice. In order that they may be the more readily compared with one another and also with the hemispheres of under-developed cerebra and of cases of progressive senile dementia which have already been illustrated, all the photographs are of exactly the same relative size.

As has already been insisted on in both the present and pre-

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vious papers, the most useful preliminary criterion of both the existence and the approximate amount of wasting is the quantity of intra-cranial fluid which is present, as this is practically non-existent in the normal cranium, and as it can only occur in quantity in association with loss of cerebral tissue. The writer here excludes certain grossly obvious pathological conditions unassociated with mental disease in which the blood normally contained in the cerebral vessels and sinuses is largely replaced by intra-cerebral fluid, and also ordinary local gross lesions of the cerebrum in which loss of brain tissue is replaced by intra-cranial fluid, as none of these morbid states form part of the subject which is under consideration.

In the cases figured on Plates I and II, for example, there was no excess of intra-cranial fluid, and there is no cerebral wasting. In the first of these plates are shown the small and very simply convoluted hemispheres of an imbecile with epilepsy, and in the second the very small and simply convoluted hemispheres of a normal degenerate.

In the case figured on Plate III, some excess of fluid existed in association with slight cerebral wasting, and, from the clinical aspect, a mild grade of dementia in an intelligent individual suffering from presenile melancholia. The cerebrum is very large, and is extremely well convoluted, in these details markedly contrasting both with the preceding and the following illustrations.

In the case figured on Plate IV, fig. 4, there existed in the subdural space moderate, and in the sub-arachnoid considerable, excess of fluid. The case is one with a marked grade of progressive dementia, and the wasting depicted in the photograph is obvious.

In the case shown on Plate IV, fig. 5, there existed in the subdural space enormous, and in the sub-arachnoid great, excess of fluid. The case is one of gross progressive senile dementia, and the wasting exhibited in the photograph is grossly obvious. In the preceding case the encephalon weighed 1,150 grm. and the cerebellum, etc., 135 grm., and in the present one the encephalon weighs 1,045 grm. and the cerebellum, etc., 145 grm. It is, therefore, likely that the latter brain was, in its original condition, greater than the former. If, on this basis, the hemispheres in Figs. 4 and 5 were remodelled, the latter would be the larger, and the apparent

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great complexity of the prefrontal region which shows so clearly in the photograph would become less obvious.

These hemispheres clearly illustrate the first of the important points to which the writer wishes to draw attention, namely that *gross wasting markedly increases the* APPARENT *complexity of the convolutional pattern.* If they are compared gyrus by gyrus with the hemisphere shown on Plate III, fig. 3, it will be evident at once that neither possesses anything like either the frontal or the parietal complexity which is exhibited by this case, although on casual inspection they both appear to be more complex.

A further important fact is also shown by the comparison of these hemispheres, namely that LARGER *actual size of a hemisphere decreases the* APPARENT *complexity of the convolutional pattern.* Hemispheres, when studied one by one as they occur at *post-mortem* examinations, are unconsciously inferred to be of about the same size, unless they should happen to be grossly large or very small. Even if certain selected hemispheres are later on compared side by side, the smaller and more wasted examples often *appear* to be the more complex, although actual detailed examination may demonstrate the reverse to be the case. The writer has, therefore, systematically supplemented his examination of cerebral hemispheres by the study of a series of photographs, all taken exactly to scale and of such a size as enabled several to be examined at the same time.

As might be expected, the converse of the last point to which attention has been drawn is also true. SMALLER *actual size of a hemisphere increases the* APPARENT *complexity of the convolutional pattern.* This detail is well exhibited by certain hemispheres, which will now be referred to.

The writer would finally draw attention to the point that whilst in many hemispheres wasting is associated with an unfolding of the affected convolutions, which results in relatively little apparent increase of complexity, *in other cases which exhibit gross wasting the convolutions may lie so closely together that great* APPARENT *increase of complexity results.* This detail is especially evident in the hemispheres illustrated on Plate VIII, fig. 11. These, though very simply convoluted, appear, through the gross wasting and close packing of the convolutions, to be, on first inspection, little inferior in complexity of pattern to the well-developed hemisphere illustrated on Plate III, fig. 3. It is difficult, indeed, even when the fact is known, to believe that

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the magnification is exactly the same and that the convolutional pattern is so grossly different in the two cases. In reality the hemisphere shown in Fig. 3 weighed 680 grm., whereas the hemispheres illustrated in Fig. 11 scaled but 330 and 290 grm. respectively, their combined weight being less by 60 grm. than that of the first hemisphere.

After the above preliminary remarks, the necessity of which will be seen when the different illustrations are compared with one another, the writer will now proceed to describe the hemispheres of the cases of dementia paralytica which are shown on Plates V to VIII.

On Plate V, figs. 6 and 7, are figured the right hemisphere of a chronic case, and the left hemisphere of a more acute case of dementia paralytica. In the former of these (Fig. 6) the pia-arachnoid stripped readily from the hemisphere illustrated, whereas in the case of the left hemisphere, which was the less severely affected of the two, this membrane stripped with considerable difficulty on the postero-inferior aspect. In the hemisphere illustrated in the figure both the regional distribution and the degree of the cortical wasting are well shown.

In the latter (Fig. 7) the pia-arachnoid was very adherent to the subjacent cortex, and decortication occurred on the second temporal gyrus and the pre-occipital region. The distribution and the degree of the wasting, which are stated in the description, are readily visible in the illustration.

A cursory examination of these hemispheres by no means suggests that the former (Fig. 6) possesses a greater complexity of convolutional pattern than the latter.

These cases indicate what is still more clearly demonstrated in the cases illustrated in the next plate, namely, that the degree and the regional distribution of the wasting are the same as is found in progressive senile dementia, and figured on Plate IV, figs. 4 and 5. They also show that, in the absence of *post-mortem* decomposition, the pia-arachnoid is especially adherent in those regions in which, at the time of death, recent and active dissolution of the cortical neurones is occurring, whereas this membrane becomes less adherent to, or readily strips from, the convolutions which have already undergone considerable dissolution, and in which more or less complete organisation of the proliferated non-neuronic elements of the cerebrum has occurred.

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On Plate VI are shown two cases, which are unique owing to the clearness with which they illustrate these details.

Fig. 8, in fact, depicts the different functional regions of the cerebrum with almost diagrammatic clearness. The anterior centre of association is grossly wasted, and the pia-arachnoid over it stripped very readily. This is the region in which, in mental disease, dissolution first occurs, and in which, in advanced cases of dementia, it is the most marked. Further, as has already been stated, it is the only region of the convex aspect of the cerebrum in which, in very early cases of dementia paralytica uncomplicated by *post-mortem* decomposition, adhesion of the pia-arachnoid to the cortex occurs. The psycho-motor area shows some, but much less, wasting, and the pia-arachnoid over this area stripped readily. In the case of the parietal, temporal, and insular centres of association externally, and of the precuneus and the inner part of the temporo-occipital region internally, the pia-arachnoid was very adherent to the cortex, and extreme decortication resulted from stripping (*post-mortem* four and a half hours after death). There was also decortication scattered in irregular patches throughout the callosal convolution, but the visuo-sensory area (projection sphere) was practically intact. It was, unfortunately, impossible to obtain a clinical history of this case for a longer period than one month before death.

On Fig. 9, the same distribution of the cortical wasting, and also a similar distribution of the decortication, are visible, but the differences in the appearance of the several regions are still more gross. The prefrontal region, especially, was to all intents and purposes little more than a firmly organised scar, and cut like soft wood. The case presented an unusual course in having started with a long series of epileptiform convulsions after which the patient rapidly became grossly demented; and this history exactly agrees with the morbid appearances exhibited in the cerebrum. The unusually severe involvement of the sensori-motor area has its clinical counterpart in the series of convulsions which ushered in the disease. In the majority of the cases of dementia paralytica which have come under the writer's observation, the temporal and parietal centres of association are, however, more severely affected than in the sensori-motor area, and this distribution agrees with the usual clinical course of the cases. Such a distribution has also been

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PLATE V. Fig. 6.

Chronic dementia paralytica.

Photograph of the right hemisphere of a case of chronic dementia paralytica, who died after a series of 198 epileptiform convulsions. The figure shows wasting, which is very marked in the prefrontal region (anterior two-thirds of the first and second, and anterior part of the third frontal gyri); marked in the first temporal gyrus, the inferior parietal lobule, Broca's gyrus, and the lower part of the ascending frontal gyrus; fairly marked in the remainder of the sensori-motor area and the superior parietal lobule; and relatively slight in the remainder of the hemisphere, including the orbital surface of the frontal lobe.

History.—Male, æt. 53. Married eighteen years, no children. No family or personal history. In Claybury Asylum suffering from chronic dementia paralytica for nearly three years, during the greater part of which time he was lost to time and place, and wet and dirty in his habits. During the last two years of his illness he had several series of convulsions, and eventually died after a succession of 198 epileptiform fits. Knee-jerks absent. Left pupil greater than right, and both inactive to light. Tremor.

Post-mortem.—Dura: Slightly thickened. S.D.: Recent subdural hæmorrhage and excess of blood-stained fluid. Pia: Fronto-parietal opacity and marked thickening and congestion; strips readily except on the postero-inferior aspect of the left hemisphere. S.A.: Excess. Vents.: L., markedly dilated and granular; IV, granular throughout. Vessels: Considerable thickening of basal arteries. Encephalon: 1,225 grm. Cerebellum, etc.: 145 grm. R.H.: 500 grm.; stripped 460 grm. L.H.: 520 grm.; stripped 480 grm. The right hemisphere was more severely affected than the left. The aorta was exceedingly dilated, of cartilaginous density, and contained a large amount of pearly-white fibrosis and some calcareous deposit. Liver, spleen, and kidneys dense.

Fig. 7.

More acute dementia paralytica.

Photograph of the left hemisphere of a more acute case of dementia paralytica. The figure shows wasting, which is very extreme in the prefrontal region; extreme in Broca's and the first temporal gyri and the inferior parietal lobule; marked in the rest of the sensori-motor area and the superior parietal lobule; and less marked elsewhere, including the orbital surface of the frontal lobe. Decortication exists in the second temporal gyrus and the pre-occipital region, into which parts the morbid process appears to be rapidly spreading.

History.—Female, æt. 38, married. No family or personal history. In Claybury Asylum suffering from dementia paralytica for thirteen months. On admission she was quiet and somewhat lost. She collected rubbish, and she was dirty in her habits. During her residence she had several (chiefly left-sided) convulsions. The pupils were unequal. The right knee-jerk was absent and the left was exaggerated. Facial and lingual tremors. Speech slightly slurred. Died in the last stage of dementia paralytica.

Post-mortem.—Dura: Natural. S.D.: Great excess. Pia: Fronto-parietal opacity; extremely thickened and gelatinous, and very adherent to the cortex. S.A.: Excess. Vents.: L., immensely dilated, the left more than the right, and very granular; IV, dilated and granular, especially in the lower part. Vessels: Natural. Encephalon: 1,045 grm. Cerebellum, etc.: 160 grm. R.H.: 393 grm.: stripped 360 grm. L.H.: 355 grm.; stripped 320 grm. The left hemisphere was more severely affected than the right. Cause of death: Chronic tuberculous pneumonia. Aorta natural. Liver, spleen, and kidneys dense.

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FIG. 6.

FIG. 7.

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FIG. 8.

FIG. 9.

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PLATE VI. FIG. 8.

Dementia paralytica, showing the order of progress of the morbid process.

Photograph of the left hemisphere of a case of dementia paralytica. The anterior centre of association is grossly wasted. The psycho-motor area shows some, but much less, wasting. The temporal and parietal and insular centres of association are acutely changed (*post-mortem* four and a half hours after death). The upper part of the temporal centre of association, and the anterior part of the parietal, show less acute change and more wasting. The visual projection centre, and the visuo-psychic cortex around it, are intact.

History.—Male, single, private in rifle brigade, stated to be æt. 26. No satisfactory personal or family history, but heredity of insanity denied. Died in Claybury Asylum after a residence of four weeks. Was admitted in a feeble and helpless condition. Tongue tremulous. Right pupil greater than left, and both irregular. The pupils react neither to light nor to accommodation, undergo irregular rhythmic movements, and become eccentric at irregular intervals. Knee-jerks + +. All the limbs undergo clonic contractions, and at times enter into a pseudo-clonus. There are continual masticatory movements of the lower jaw. Patient is somewhat resistive, grossly demented, and wet and dirty.

Post-mortem.—Dura: Natural. S.D.: Remarkable excess. Deposit: Non-hæmorrhagic film, the thickness of tissue paper, on the right vault. Pia: Extremely opaque and almost universally thickened; marked mid-line prefrontal adhesions below the falx cerebri; strips very readily over the frontal region. S.A.: Great excess, especially in the pre-frontal region. Vents.: L., immensely dilated, granular; III, granular; IV, very granular throughout, but especially so in calamus. Vessels: Apparently natural. Encephalon: 975 grm. Cerebellum, etc.: 157 grm. R.H.: 395 grm. L.H.: 395 grm.; stripped 350 grm. Density of liver, spleen, and kidneys increased. Cause of death: Right lobar pneumonia, dementia paralytica.

FIG. 9.

Dementia paralytica, showing the order of progress of the morbid process.

Photograph of the left hemisphere of a case of dementia paralytica. The wasting is very extreme in the prefrontal region, and extreme in the whole sensori-motor region (posterior thirds of the first and second frontal, Broca's, and the ascending frontal gyri), and in the first temporal gyrus, the superior parietal lobule, and the ascending parietal gyrus. The acute degeneration is most marked in the outer surface of the temporo-sphenoidal lobe, the inferior parietal lobule, and the pre-occipital region, but it is marked elsewhere. This distribution shows fairly well in the photograph, but it was much more clear in the actual hemisphere.

History.—Male, æt. 41, clerk. Uncle insane. Mother died of phthisis. Family intemperate. Married six years, no children. Suffered from syphilis in early life, and "took enough mercury to kill a horse." One year before admission to Claybury Asylum patient had a series of convulsions, and was unconscious after the first for twenty-four hours. He had forty-two in four days, and he had fifty or more during the year. He has been in two asylums, with an interval of two weeks at home, during this time. Slight hypospadias. Old scar on glans penis. Resists examination as if afraid of being hurt. Is grossly demented. Does not speak. Is wet and at times dirty. During his residence he rarely spoke, and suffered at times from auditory and visual hallucinations. He had several right-sided and mixed convulsions. He continued helpless and resistive, and wet and dirty, until his death fourteen months after admission.

Post-mortem.—Dura: Natural. S.D.: Great excess; a little lymph between pons and occipital bone. Pia: Marked fronto-parietal opacity and thickening; extreme mid-line prefrontal adhesions. Both on the median surface in the prefrontal region, to some extent in the prefrontal region externally, and also in the post-central region and the whole of the temporo-sphenoidal lobe, there is marked decortication on stripping. In the remainder of the fronto-parietal region the pia-arachnoid is ballooned out with fluid and strips like a glove from the subjacent cortex. S.A.: Great excess. Vents.: L., considerably dilated; many scattered granulations; IV, granular throughout. Vessels: Apparently natural. The prefrontal region, after hardening in formalin, cuts like soft wood. Encephalon: 1,280 grm. Cerebellum, etc.: 198 grm. R.H.: 535 grm. L.H.: 527 grm.; partially stripped 475 grm. Cause of death: Broncho-pneumonia, dementia paralytica.

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PLATE VII. Fig. 10.

Dementia paralytica. Cerebrum very small and very simply convoluted.

Photographs of the hemispheres of a case of dementia paralytica. Duration about two and a half years. There is much wasting of the fronto-parietal region and of the first temporal gyrus, but this is imperfectly shown in the figure. The hemispheres are very small and very simply convoluted.

History.—Female, æt. 37, married. Father intemperate. Father and sister committed suicide. Patient suffered from tingling of the hands and feet for six months before her admission to Claybury Asylum, where she died of dementia paralytica after a residence of two years. On admission she exhibited marked physical signs of dementia paralytica, and was dull and lethargic and lost to her surroundings. She soon became defective in her habits. She had her first convulsions a year after her admission. She died helpless and grossly demented.

Post-mortem.—Dura: Natural. S.D.: Great excess. Pia: Much fronto-parietal opacity and thickening; marked mid-line prefrontal adhesions. S.A.: Moderate excess. Vents.: L, somewhat dilated, granular; III, granular; IV, markedly granular throughout. Vessels: Natural. Encephalon: 985 grm. Cerebellum, etc.: 138 grm. R.H.: 415 grm.; stripped 385 grm. L.H.: 400 grm.; stripped 373 grm. Wasting: Chiefly marked in the prefrontal region, less severe and fairly general in the rest of the fronto-parietal region and in the first temporal gyrus, and slight or absent elsewhere. Cause of death: Dementia paralytica, cystic kidneys, and secondary morbus cordis.

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FIG. 10.

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FIG. 11.

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PLATE VIII. FIG. 11.

Dementia paralytica. Cerebrum simply convoluted and very small. Subdural deposit.

Photographs of the cerebral hemispheres and of a subdural deposit from a case of chronic dementia paralytica. The illustrations exhibit the essentials of the following description. The right hemisphere shows extremely marked wasting in the fronto-parietal region and in the first temporal gyrus. Of these parts the prefrontal region is the most wasted, and the psycho-motor area, with the exception of Broca's gyrus, is the least. The left hemisphere, which was compressed by the deposit photographed below it, exhibits scattered bronzing and very extreme wasting in the prefrontal region. The anterior part of the first temporal gyrus shows much bronzing and marked wasting. The wasting is otherwise as in the right hemisphere. The hemispheres, apart from the wasting, are very small and simply convoluted (R.H. = 330 grm., L.H. = 290 grm., average normal male = 589 grm.), and the small size, in association with the wasting and the close packing of the convolutions, tends in the photographs to obscure the simplicity of the convolutional pattern.

History.—Male, æt. 41, insurance agent. Intemperance on paternal side. Father's cousin is at present in an asylum. Patient had syphilis at the age of twenty years. Married seven years, six children. The first, fourth, and fifth were stillborn, the second is alive, and the third and sixth died when infants. For two years before his admission patient was excitable and curious in his behaviour, and talked and raved about his business. He had been intemperate, but latterly he was often queer and erratic, although he had had no drink. He slept badly during the last four months, and was eventually certified owing to sudden violence. He resided in Claybury Asylum for three and a half years, and then died of dementia paralytica. On admission he was excited and grandiose and confused, and thought that he was Emperor of the World. Knee-jerks absent. Speech characteristic. Pupils irregular, and left greater than right. A year afterwards he was cheerful and industrious, but was beginning to go downhill. A year later he still exhibited delusions of wealth and strength, but was demented and wet and dirty. He gradually became lost, untidy, destructive, shaky, and feeble, and died in an advanced stage of dementia paralytica.

A monthly record of reflexes and pupillary changes was taken from the sixth to the fifteenth month of his residence. The knee-jerks were absent. Hypotonus (85°) developed in the fourteenth month and continued. Both pupils were very irregular and were absolutely fixed to light. The right gradually decreased during the above period from $3\frac{1}{2}$ to $2\frac{1}{2}$ mm., accommodating to 3 and 2 mm. respectively, and the left gradually decreased from 5 to $4\frac{1}{2}$ mm., accommodating to $4\frac{1}{2}$ and 3 mm. respectively. At this time his tongue was only moderately tremulous and his speech was not grossly characteristic. By the twelfth month of residence patient was distinctly more stolid in his behaviour, but he continued to be grandiose. He devoured pheasants, partridges, bullocks' brains, jellies, honey, and port wine daily. He was as strong as a lion. His mother was a beautiful lady and his father a lawyer's clerk with a carriage and pair.

Post-mortem.—Dura: Natural. S.D.: Enormous excess of clear fluid. Deposit: When the dura is reflected it tends to adhere over the left side, but strips readily; the whole left hemisphere, except for the median half inch about the posterior half, is covered with an old greyish-green deposit, which is ballooned out anteriorly by fluid; the right hemisphere possesses a large amount of loculated S.A. fluid, but there is less on the left side. On removing the brain the deposit readily separates from the dura at the base. It is very loosely attached to the pia. The deposit contains fluid in its anterior part and is here in places hæmorrhagic. The weight of the deposit and contained fluid is 45 grm.; it is dense and pale and fibrous, and behind the cystic cavity it varies from $\frac{1}{8}$ to $\frac{1}{16}$ in. in thickness. Pia: Almost generalised opacity and extremely marked mid-line prefrontal adhesions. Vents.: L., enormously dilated, granular throughout; III, granular throughout; IV, extremely granular, especially in calamus. Vessels: Slightly fibrous and very small. Encephalon: 812 grm. Cerebellum, etc.: 108 grm. R.H.: 362 grm.; stripped 330 grm. L.H.: 310 grm.; stripped 290 grm. Cause of death, etc.: Gangrene of right lung; dementia paralytica; very chronic tuberculosis of the small intestine and the mesenteric glands. Severe pigmented scars on the left shin and unpigmented papery scars on the right shin; extremely marked scar on the glans penis just to the left of the urethral orifice. Glands in groins very shotty.

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independently described by Schaffer and by Watson. On the other hand, in ordinary cases of dementia, in which the process of neuronic dissolution is neither so fulminating nor so severe, and in which the centres of lower association are frequently less severely affected than is the pre-Rolandic portion of the cortex, it is less common to meet, during their clinical course, with the grossly aberrant psychic phenomena of lower association which are common in dementia paralytica, and which have already been considered in the present paper (*Journal of Mental Science*, July, 1906, pp. 456–465).

(B) *Cerebral under-development in dementia paralytica.*—In the remaining cases to which reference will be made and which are illustrated on Plates VII and VIII, the question of cerebral under-development in relation to dementia paralytica will be considered. All the cases of dementia paralytica which so far have been described may, for practical purposes, be considered to have possessed cerebra of, at the least, average development.

For comparison with the clinical account of the varieties of dementia paralytica in which it will be shown that not only "normal" individuals, but also high grade aments and even imbeciles exhibit this symptom-complex, it is now necessary to produce cases of dementia paralytica which possess the small and simply convoluted cerebra of mental degenerates.

In Plate VII, fig. 10, are shown the right and left hemispheres of a woman possessing a markedly under-developed cerebrum. These hemispheres are very small and also very simply convoluted, and these details become especially obvious when the photographs are compared with the equal-sized illustration on Plate III, fig. 3. The weights of the right and left hemispheres, after stripping, are respectively 385 and 373 grm., whereas the weight of the average normal stripped hemisphere of the female (based on Huschke's ratio and on F. Marchand's statistics) is about 534 grm.

The hemispheres of this case are so simply convoluted that the marked wasting which exists is not obvious, in spite of the fact that in any, but particularly in small, hemispheres the apparent complexity of convolutional pattern is increased by wasting. Were the hemispheres of this case in their original condition, it is not an exaggeration to remark that the simplicity of their convolutional pattern would appear extraordinary.

In Plate VIII, fig. 11, are shown the hemispheres of a similar

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(male) case of dementia paralytica with an under-developed cerebrum. The central photograph is that of a subdural deposit of long standing, which entirely covered the left hemisphere. Though the patient was of the male sex, the stripped hemispheres weighed respectively but 330 and 290 grm., the pair thus totalling less by 60 grm. than the 680 grm. scaled by the single hemisphere illustrated on Plate III, fig. 3 (average male normal 589 grm.).

Here, again, the simplicity of convolutional pattern is so marked that the very gross wasting which exists is far from obvious. On the other hand, the close packing of the convolutions, in association with the gross wasting, tends to hide the remarkable simplicity of convolutional pattern, and makes it difficult to conceive that the hemispheres are of exactly the same relative size as is that illustrated on Plate III, fig. 3.

(4) *Evidence as to the Relationship between Dementia Paralytica and Mental Disease, derived from a Study of the Clinical Types of Dementia Paralytica.*

In the preceding sub-sections evidence has been adduced as to the frequency of heredity of insanity and of family and parental degeneracy in dementia paralytica, and as to the modification of the death rates of the insane at different ages which results from the exclusion of the cases of dementia paralytica. Further, the writer has indicated the relationship which exists between the morbid anatomy of dementia paralytica and that of progressive senile dementia, and he has drawn attention to the existence of cerebral under-development in certain types of dementia paralytica.

The final evidence, which he purposes to produce in support of the thesis that dementia paralytica is an integral part of mental disease, is derived from a comparison of the clinical types of dementia paralytica with the homologous types of ordinary mental disease, which have already been considered under the heading of "Primarily Neuronic Dementia."

Further experience has confirmed him in the opinion that the following classification of the varieties of dementia paralytica, which was suggested in a previous paper (*Archives of Neurology*, vol. ii), is on the whole satisfactory. It is based on the different grades of cerebral degeneracy which are presented

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by the several types, and thus follows on the lines already adopted in the description of primarily neuronic dementia, though for convenience the order is inverted.

The classification is as follows:

(1) *Dementia paralytica.*

- (*a*) Juvenile dementia paralytica.
  - (1) In imbeciles (low-grade aments).
  - (2) In high-grade aments, etc.
- (*b*) Ordinary chronic dementia paralytica in adult high-grade aments.
- (*c*) "Tabetic general paralysis" or dementia paralytica associated with extensive degeneration of (usually afferent) lower neurones.
- (*d*) Acute or subacute dementia paralytica in the highest grade degenerates (general paralysis of the text-books).

(2) *General paralysis without mental symptoms.*

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Cases of dementia paralytica form a small proportion only of the series of cases under consideration, there being but 23, of whom 14 are males and 9 are females. They thus amount to 5·17 *per cent.* of the 445 cases of dementia, or 3·16 *per cent.* of the total of 728 cases of amentia and dementia.

These cases fall into the following classes:

	M.	F.	T.
Dementia paralytica.			
(*a*) Juvenile.			
(1) In imbeciles	1	—	1
(2) In high-grade aments, etc. .	—	—	—
(*b*) Ordinary chronic in high-grade aments	9	8	17
(*c*) Tabetic general paralysis . .	—	—	—
(*d*) Acute or subacute in highest grade degenerates . . .	4	1	5
Total . . .	14	9	23

In spite of the small number of cases it will be seen that in the acute or subacute type there is the usual preponderance of male cases, whereas the chronic cases show but a slight difference in sex-frequency.

The practically equal sex-incidence in chronic dementia paralytica was noted some years ago by the writer in a previous

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paper. Whilst dementia paralytica is more common in the male than the female sex owing to the greater frequency of syphilis in the former, "stress" is also a more important factor in the male sex, owing to the conditions of civilised life. Acute cases of dementia paralytica therefore preponderate in the male sex and chronic cases in the female sex, with the accidental result that an approximately equal number of chronic cases exist in the two sexes.

On the other hand, the approximately equal sex-incidence in juvenile general paralysis, which was first noted in 1893 by Dr. Wiglesworth, is the natural consequence of the equal sex-incidence of "congenital" syphilis and of the more equal sex-incidence of "stress" in such juvenile cases.

As typical examples of the several varieties into which dementia paralytica has been classified were published by the writer in the paper already referred to, and as their existence is now probably proved beyond dispute, his purpose will be served by an explanatory amplification of the classification, without the insertion of any cases beyond those already briefly summarised in the illustrations.

Juvenile dementia paralytica.—In the *imbecile type* the patient is a well-marked degenerate of congenitally deficient intelligence. At or before the age of puberty a slowly progressive dementia develops under the influence of the "stress" of normal environment. In spite of the deficient durability of the cortical neurones of these cases the development of the dementia is usually slow, as the "stress" which has determined their incarceration in an asylum is so slight that a relatively small amount of immediate injury to the cortical neurones has been produced. It is probable that accident of environment or physical disease has a good deal to do with the exacerbation of symptoms which at times occurs. In one case, for example, the writer has little doubt that the exertion of acting as a golf caddie was the exciting cause of a more rapid progress of the disease, for the patient had for a long time previously remained in a practically stationary condition. In the writer's experience cases of this type frequently suffer from degeneration of the lower neurones and exhibit optic atrophy and tabetic symptoms. They are the probable juvenile homologues of the "ordinary chronic" and "tabetic" types of dementia paralytica.

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In the view of the writer patients suffering from the imbecile type of juvenile dementia paralytica would, if they had not previously suffered from syphilis, have become ordinary examples of the (stationary) premature dementia of marked degenerates.

In the *high-grade ament form* of juvenile dementia paralytica, the patient has originally been of at least average intelligence, and at times appears to have been distinctly well endowed mentally. It is, however, common to find that such patients become "backward" in their studies about the period of puberty. Under what at times seems to be the "stress" of normal environment, but is usually distinctly more severe, *e.g.*, in some cases prolonged over-study, the patient, about the period of puberty or adolescence, develops acute and progressive dissolution of the higher cortical neurones, which, when the morbid process has once got under way, often runs a rapid course. The symptomatology presented by cases of this type is at times identical with that given in ordinary text-book descriptions of adult general paralysis. The writer has formed the opinion, though he expresses it guardedly owing to the lack of statistical evidence, that degeneration of the afferent systems of neurones is less common in such cases than in the imbecile type of juvenile dementia paralytica.

In the view of the writer, the subjects of the form of general paralysis under consideration would, if they had not previously suffered from syphilis, have become ordinary examples of (stationary) premature dementia. In consequence, however, of former infection with syphilis, these cases become the premature homologues of the rapidly progressive adult variety of dementia paralytica, in which, at the period of greatest mental and physical activity, fulminating dissolution of the higher cortical neurones is precipitated under the influence of excessive mental and physical "stress."

Ordinary chronic dementia paralytica.—Whilst any of the well-known types of symptomatology, including epilepsy, may occur in the subjects of the chronic form of dementia paralytica, progressive dementia is the prominent clinical feature, and the course of the case is often so slow that, were it not for the existence of the ordinary physical signs, the condition would undoubtedly often be undiagnosed. Many such cases, in fact, probably die unsuspected at home or in workhouses, for only the cases which cause trouble are likely to be sent to asylums.

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Ideas of grandeur often exist, and the writer has seen several cases which still exhibited this symptom after a residence in an asylum of ten or twelve years. Such cases, as a rule, neither exhibit the acute symptomatology nor provide the antecedent history which occur in cases of the ordinary text-book description, and they are often admitted to asylums when already in an advanced stage of dementia. Two examples of this type of dementia paralytica are described and figured on Plates VII and VIII.

These cases are commonly, if not invariably, high-grade aments, who often exhibit marked stigmata of degeneracy. It is probable, therefore, that, especially in the examples who do not suffer from convulsions, the often prolonged course of the case is due to the same cause as has already been stated with reference to the imbecile variety of juvenile dementia paralytica, namely the readiness with which the cortical neurones are affected by "stress." In such cases there is consequently less immediate dissolution of the higher cortical neurones than occurs in the more fulminating types whose breaking-strain is not readily reached. Hence, when the slight "stress" which has precipitated their breakdown is removed by their being placed under asylum *régime*, the symptoms largely subside, and, unless they should be discharged "recovered" and consequently relapse, these cases usually run a prolonged course.

In the opinion of the writer, such cases would, had they not previously suffered from syphilis, have become examples of the ordinary chronic lunatic with moderate (stationary) dementia, and a general symptomatology appropriate to their mental constitution.

"*Tabetic general paralysis.*"—In this form of dementia paralytica dissolution of the higher cortical neurones is associated with a more or less extensive degeneration of (usually afferent) systems of lower neurones. Owing to the definite neurological symptomatology in well-marked cases, it is desirable that these examples should be considered a special type, as otherwise dementia paralytica would require to be artificially sub-divided into (*a*) dementia paralytica and (*b*) dementia paralytica with involvement of lower neurones. This is, however, undesirable, as many, if not the majority of, cases of dementia paralytica exhibit some slight affection of these neurones when they are

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submitted to systematic histological examination. As a rule, however, when the affection of lower neurones is well marked, the cases are either the rare examples of the imbecile variety of juvenile dementia paralytica or are fairly high-grade degenerates who, apart from involvement of the lower neurones, would fall into the class of "ordinary chronic dementia paralytica."

The writer thinks it probable that, had they not previously suffered from syphilis, certain of these cases would have become examples of ordinary chronic insanity with moderate (stationary) dementia, and the remainder would have suffered from a chronic process of dissolution of certain systems of lower neurones, and would have thereby come under the purview of the neurologist rather than of the alienist.

Acute or subacute dementia paralytica in the highest grade degenerates (general paralysis of the text-books).—It is unnecessary to refer here to the classical symptomatology of this form of dementia paralytica, and particularly so as it has already been critically discussed under the subject of "Mental Confusion and Dementia" in an earlier section of this paper (*Journal of Mental Science*, July, 1906, pp. 456–465).

It may, however, be pointed out that cases of this type are, by cerebral development, frequently so little prone to suffer from dementia, that only the severest forms of "stress" (mental and physical over-strain, business worries, alcoholic and other excesses, etc.) are able to precipitate the onset of dissolution of the higher neurones of the cortex. In such cases, where highly evolved cortical neurones have long been strained to breaking-point, fulminating dissolution occurs when this has been overstepped, and a rapid case of dementia paralytica ensues.

In the view of the writer, if cases of this type had not previously suffered from an attack of syphilis, they would either have become temporarily insane, or would have developed a more or less marked grade of non-progressive dementia.

General paralysis without mental symptoms may perhaps be considered the very highest (and non-certifiable) grade of the form of mental disease under consideration. Though well known to neurologists, this condition does not fall into the sphere of alienism, although certain rare cases of arrested or recovered general paralysis might be included under the term. Such latter cases are, however, more likely to be examples of what might be called a premature onset of dementia paralytica, in which the

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"stress" to which the cerebrum had been subjected had sufficed for the production of symptoms, but had not been severe enough to cause an appreciable degree of dissolution of the higher cortical neurones. In these cases definite dementia paralytica would be expected to ensue at some future time, provided that the patient were again subjected to "stress" beyond the resistance of his cerebrum.

If, however, it be taken for granted that *no* mental symptoms, rather than *no certifiable* mental symptoms, exist in such cases, it is preferable to employ the term "general paralysis in the sane."

The writer has necessarily excluded *senile dementia paralytica* from his classification, as cases of this kind are usually complicated by the existence of senile or prematurely senile degeneration of the cerebral arteries of a grade which might in itself result in the development of progressive senile dementia. Such cases, in other words, as a rule, combine both the morbid anatomy and the symptomatology of dementia paralytica and of progressive senile dementia.

In these cases, in the experience of the writer, the attack of syphilis has usually occurred at or after maturity, and its influence has chiefly been in the direction of a gross exacerbation of normal senile vascular degeneration. This is shown by the presence of well-marked dilatation and pearly fibrosis of the aorta and of the larger and medium arteries, together with extensive fibrosis of the smaller arteries (particularly in those of the cerebrum), and a moderate amount of calcareous deposition in the arteries generally.

The cerebral morbid anatomy of such cases, whilst suggesting dementia paralytica, is frequently that of progressive senile dementia, probably in consequence of a lesser capacity for reparative reaction on the part of the non-neuronic elements of the encephalon than exists in ordinary dementia paralytica. The clinical symptoms presented by such cases agree with the morbid anatomy in being chiefly those of progressive senile dementia, although dementia paralytica is suggested both by the physical signs which are present and by the type of mental confusion which is exhibited.

Summary.

It is beyond the expectation of the writer that the evidence

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which he has collated should finally settle the vexed question of the relationship of dementia paralytica to mental disease. He, however, hopes that he has at any rate stated a case which will justify the attitude he has adopted.

In brief, he considers that dementia paralytica is a branch of mental disease, and that the subjects of this form of mental disease would, if they had not been syphilised, have suffered from one or other of the types of primarily neuronic dementia. He is further of the opinion that former syphilis is a necessary antecedent to dementia paralytica.

With regard to the first question, he has shown, by a study of the death rates in mental disease at different ages, and by a comparison of these death rates with the homologous death rates in the corresponding general population, that the exclusion of the general paralytic population of an asylum leads to the result that lunatics (particularly those of the male sex) have an extraordinarily low death rate between the ages of thirty-five and fifty-four. If, on the other hand, the general paralytic population is included in the total lunatic population, this result is not apparent.

He has also pointed out that the morbid anatomy and the pathology of dementia paralytica do not differ in their essential features from those of progressive senile dementia. He has further shown, by a classification of the types of dementia paralytica and a comparison of these with the varieties of primarily neuronic dementia, that the two series are homologous.

On these various grounds he has based his contention that dementia paralytica is a branch of mental disease. As confirmatory evidence he has pointed out the high percentage of heredity of insanity and of parental and family degeneracy which can be obtained in cases of dementia paralytica, and he has shown that cerebral under-development occurs in certain types of this form of mental disease.

With regard to the second question, he has indicated his reasons for considering that former syphilis is a necessary antecedent to dementia paralytica. He is of the opinion that the ordinary sane individual and the ordinary psychopath or potential lunatic, if possessed of cortical neurones of average durability, may suffer from syphilis with impunity as regards the later onset of dementia paralytica, and he considers that the same statement may be made with regard to the syphilised

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lunatics with little or no dementia, who are fairly common in asylums. On the other hand, he holds that a psychopath who possesses cortical neurones of subnormal durability, and who, apart from an attack of syphilis, would develop a moderate grade of dementia, would, after an attack of that disease, sooner or later suffer from one or other of the types of dementia paralytica.

He thinks that the important feature in which dementia paralytica differs from progressive senile dementia consists in the possession, by the subjects of former syphilis, of a permanently enhanced capacity of reparative reaction on the part of the non-neuronic elements of the encephalon. In both cases neuronic dissolution and non-neuronic reparative reaction occur *pari passu*. In the case of dementia paralytica the latter is more or less intense, and vascular degeneration is relatively slight; in the case of progressive senile dementia the latter is relatively feeble and vascular degeneration is relatively severe. He would illustrate this point by a coarse analogy, comparing dementia paralytica to certain types of progressive renal cirrhosis and progressive senile dementia to senile renal cirrhosis.

On these grounds he includes dementia paralytica and progressive senile dementia under the common group of "Progressive and Secondary Dementia."

(*To be continued.*)

Observations on the Opsonic Index to Various Organisms in Control and Insane Cases. By C. J. SHAW, M.D., Senior Assistant Medical Officer, Montrose Royal Asylum, formerly Assistant Medical Officer, Perth District Asylum, Murthly.

IN Wright's earliest researches on the opsonic body in human blood serum he used various strains of staphylococci. He found in various forms of staphylococcal invasion, such as acne, furunculosis, and sycosis, that the index of the patient so infected was lower than that of an ordinary healthy individual to the particular organism causing the disease. By his method of inoculation of a vaccine made from the infecting organisms

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he was able to greatly improve the condition and even cure most intractable cases. Bullock has obtained like results, and cases have been recorded where pneumococcal and other infective diseases have been cured by similar treatment.

So far as is at present known the opsonic index of human blood serum to the majority of organisms is very similar to the tuberculo-opsonic index. For purposes of comparison as between the healthy sane individual and the non-tubercular insane, I examined the indices of five control cases and fifteen insane patients to the *Bacillus coli communis*, *Staphylococcus aureus*, and *Micrococcus rheumaticus* for five days before the injection of Koch's new tuberculin T.R. was given and for some days thereafter.

Throughout the whole series of observations the temperature and pulse-rate were recorded twice daily in both the control and insane cases.

The quantitative and qualitative leucocytosis was observed before and after injection in all the control cases and in nineteen of those suffering from mental disease.

To observe the effect of the injection of tuberculin on the insane the urine of ten patients who were confined to bed was collected before and after injection, and the amount of urea and chlorides excreted during each twenty-four hours recorded. At the same time an accurate record of the albumen and chlorides ingested daily was made, and the difference between ingestion and excretion noted.

Daily notes were made of the mental symptoms, particularly of the acute cases under observation.

The technique employed was the same as that already described in the observations made with the tubercle bacillus, but fresh organismal suspensions in a normal sodium chloride solution were made every second day to prevent any error from contamination with foreign organisms.

The films were stained with Jenner's eosin and methylene blue. The contents of fifty leucocytes were usually counted, but on a few occasions only thirty were enumerated. The same number of cells was always examined at the same observation for any one organism.

Although there are no statistics to support the statement, I have found during my residence in the Perth District Asylum that the insane frequently suffer from acne, boils, and other low

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forms of inflammation. From many such cases I have isolated a *Staphylococcus aureus.* Clouston states that boils and skin irritations are common in some forms of mental disease.

Cystitis occurs frequently in asylums, even in fairly healthy patients. In many cases I have found the *Bacillus coli communis,* or an allied organism, present in the urine. Obscure intestinal lesions are also common amongst the insane and may, in some cases, be associated with this microbe. Johnstone and Goodall found agglutinins to various strains of the *Bacillus coli communis* in the blood of 60 *per cent.* of insane cases examined by them. For my observations, therefore, I used *Staphylococcus aureus* and *Bacillus coli communis.* The growth of the *Bacillus coli* used was obtained from the fæces of a patient. The *Staphylococcus aureus* was obtained from the bone-marrow of a case of acute mania who died in a typhoid state. It was tested by Dr. Dowson, of Messrs. Burroughs, Wellcome, & Co.'s Pathological Laboratory, and was pronounced by him to be a pure culture of this organism.

Dr. L. C. Bruce has isolated streptococci from the blood of a case of acute mania, and also from a case of a form of adolescent insanity—katatonia, and has found agglutinins to these organisms in the blood of the majority of patients suffering from the same diseases. Erysipelas is also relatively more common amongst the insane than amongst the sane population. In the district from which the Perth District Asylum draws its patients, rheumatism, in its various forms, is perhaps the most common ailment. Rheumatism, however, does not appear to be more common in the asylum than in the country round. Although rheumatism is not a common cause of insanity it is so in some cases, and Clouston, in his book on mental diseases, gives a most graphic description of a case of rheumatic insanity. He also quotes statistics to show the important relationship between rheumatic attacks and the periods of puberty and adolescence. As almost 50 *per cent.* of all the persons on whom observations were made were adolescents, or, if insane, in whom the illness had begun in adolescence, I used the *Micrococcus rheumaticus* as the type of streptococcus. I found it much easier to work with than any other strain of streptococcus obtainable, as it did not clump so readily in solution, and was, therefore, more easily counted and gave more accurate and reliable results.

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Five control cases were examined to these three organisms for five consecutive days.

To the *Bacillus coli* the average index was 1·02, the variation ranging between ·84 and 1·14. The variation in the individual cases is greater than to tubercle, and is more easily affected by outside influence. In one patient, who had attended a public dinner the previous evening, the index to *Bacillus coli* recorded at the usual hour next morning was 1·5, while there was no marked difference in the indices obtained to the other organisms employed at this observation. In these five control cases the average tuberculo-opsonic index was 1·08, which is not much higher than that found to *Bacillus coli.*

The average index of the five control cases examined to *Staphylococcus aureus* was 1·1, with a variation between ·89 and 1·45. One case had invariably a very high index to this organism, reaching on one occasion 1·63. The variation in the other cases was not very great. The index to this organism is rather higher than that to tubercle in the same cases, being 1·1 as against 1·08.

In the case of the *Micrococcus rheumaticus* the same five cases gave an index of 1·07. The variation ranged between ·89 and 1·22. The variation in the individual cases is also wide. The average tuberculo-opsonic index in these cases was 1·08, the variations being between ·97 and 1·32.

Table showing the Average Opsonic Indices of the Control Cases to the Tubercle Bacillus, Bacillus coli, Staphylococcus aureus, and Micrococcus rheumaticus.

T. b.	*B. c.*	*S. a.*	*M. r.*
1·08	1·02	1·1	1·07

There is, therefore, very little difference found in the average index of sane healthy individuals tested to these four organisms. That to *Bacillus coli* is lowest, and shows the least variation, while that to *Staphylococcus aureus* is highest, and shows the greatest amount of variation.

In twelve insane patients the average opsonic index to *Bacillus coli* was 1·06, the variation being between ·81 and 1·28. This result compares favourably with that found in the control cases to this organism, although the variation is greater. In the same cases the tuberculo-opsonic index was ·97.

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In fifteen cases tested to *Staphylococcus aureus* the index was 1·07, with a variation ranging between ·91 and 1·38. This differs very slightly from the results obtained in the control cases. In the same cases the average index to tubercle was only ·9.

Eleven cases which were observed to the *Micrococcus rheumaticus* gave an average index of ·94, the variation being between ·78 and 1·21. This result is below the index of the control cases and the variation observed is greater. The average index to tubercle in the same series of cases was ·91. The amount of variation to the tubercle bacillus was the same in each series of observations, viz.: ·68 to 1·23. When the cases are examined individually the range of variation is found to be greater in the insane patients than in the control cases.

Table comparing the Tuberculo-opsonic Indices with the Indices obtained to the Bacillus coli, Staphylococcus aureus, *and the* Micrococcus rheumaticus *in the Same Series of Patients.*

Average opsonic index to	*B. c.*	1·06;	to	t. b.	·97
" " "	*S. a.*	1·07;	"	"	·9
" " "	*M. r.*	·94;	"	"	·91

The tuberculo-opsonic index is below the opsonic index of these other organisms in the insane cases and the range of variation greater.

Except in one case where a boil developed towards the end of these observations none of the patients were known to suffer from any infective condition, and all carious teeth or other source of infection had been removed, as far as possible, before the work was begun.

Table comparing the Average Opsonic Indices of the Control Cases to the Tubercle Bacillus, Bacillus coli communis, Staphylococcus aureus *and* Micrococcus rheumaticus *with those of the Insane Patients to the Same Organisms.*

	T. b.	*B. c.*	*S. a.*	*M. r.*
Control cases	1·08	1·02	1·1	1·07
Insane cases	·88	1·06	1·07	·94

With the exception of *Bacillus coli* the average opsonic index of the control cases was higher to all the organisms used in

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these observations than in the insane patients. The amount of difference between the two averages to *Bacillus coli* was very small and much less than what was found in the case of tubercle or *Micrococcus rheumaticus.*

It may therefore be concluded that the resistive power of the insane to organismal invasion in less than that of the sane healthy population.

The observations with *Bacillus coli*, *Staphylococcus aureus*, and *Micrococcus rheumaticus*, were continued after the injection of tuberculin. Each of the four of the control cases, who were injected with $\frac{1}{500}$ mgr. T.R., showed a negative phase to *Staphylococcus aureus.* Three had a diminution of opsonic power to *Bacillus coli* and two to the *Micrococcus rheumaticus.*

Of the two cases who showed no negative phase to tubercle after injection, one had a fall in opsonic power to all the three organisms tested, while the other gave a similar result with *Bacillus coli* and *Staphylococcus aureus.*

Two cases developed a negative phase to the tubercle bacillus after the injection of tuberculin; one of these gave a similar reaction with all three organisms, while the other only did so to *Staphylococcus aureus.*

Table showing Number of Negative Phases in the Control Cases to the Tubercle Bacillus, Bacillus coli, Staphylococcus aureus *and* Micrococcus rheumaticus *following the Injection of* $\frac{1}{500}$ *mgr. T.R.*

	T. b.	*B. c.*	*S. a.*	*M. r.*
A.	N.	N.	N.	N.
B.	O.	N.	N.	O.
C.	N.	O.	N.	O.
D.	O.	N.	N.	N.

All the control cases, therefore, gave a negative phase to one or other of these organisms, the *Bacillus coli*, *Staphylococcus aureus*, and *Micrococcus rheumaticus* after injection with T.R.

Of the twelve series of observations made to other organisms after the injection of tuberculin, in nine instances a negative phase resulted, that is, in 75 *per cent.* of the total.

Only one control case injected with $\frac{1}{750}$ mgr. T.R. was tested to the three other organisms employed. No negative phase to tubercle was produced in this case, but there was a

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loss of opsonic power to the *Micrococcus rheumaticus* after injection.

Nine insane patients injected with $\frac{1}{500}$ mgr. T.R. were tested to *Bacillus coli* after injection, and in all a negative phase resulted. All twelve insane cases who were injected with a similar amount of T.R. were tested to *Staphylococcus aureus*, and in eight of these cases a negative phase followed, this is, in 66 *per cent.* Of eight cases in the same series examined to *Micrococcus rheumaticus* five gave a negative phase, that is, 62·5 *per cent.*

Table showing Percentage of Negative Phases to all the Organisms used in the Control Cases and Insane Patients after the Injection of $\frac{1}{500}$ *mgr. T.R.*

	T. b.	*B.c.*	*S. a.*	*M. r.*
Control	50	75	100	50
Insane	91	100	66	62·5

On comparing the results obtained in the control cases with those in the insane to each organism, it was seen that the percentage of cases where a negative phase was observed after injection was less in the control than in the insane cases to tubercle, *Bacillus coli*, and *Micrococcus rheumaticus*, but greater in the control cases than in the insane patients to *Staphylococcus aureus*.

Only three cases injected with $\frac{1}{750}$ mgr. T.R. were tested to the other organisms. One of these cases gave a negative phase to tubercle only, but one of them showed this reaction to all the other organisms, while the third had a fall in opsonic power to *Bacillus coli* only.

Table showing Number of Negative Phases in the Insane Cases to the Tubercle Bacillus, Bacillus coli, Staphylococcus aureus *and* Micrococcus rheumaticus *after the Injection of* $\frac{1}{750}$ *mgr. T.R.*

	T. b.	*B.c.*	*S. a.*	*M. r.*
Case 17	O.	N.	N.	N.
Case 20	N.	O.	O.	O.
Case 29	O.	N.	O.	O.

In some cases the fall in the opsonic curve to these organisms was slight, and the continuation of the curve showed little change from what it was before the injection of tuberculin,

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but in many the curve closely resembled that of a typical negative phase to tubercle.

After an injection of either $\frac{1}{500}$ mgr. T.R., or $\frac{1}{750}$ mgr. T.R., I find the number of cases in which a negative phase results is greater in the insane than in the sane.

A series of sixteen observations was made on the control cases after injection with $\frac{1}{500}$ mgr. T.R., with all four organisms used, namely, tubercle bacillus, *Bacillus coli, Staphylococcus aureus*, and *Micrococcus rheumaticus*. In all there were eleven negative phases produced after injection, that is, in 68·7 *per cent.*

A series of forty-one observations was made on the twelve patients who were similarly injected. Of this total thirty-three showed a negative phase, that is, 80·4 *per cent.*

With an injection of $\frac{1}{750}$ mgr. T.R. one control case showed a negative phase in 25 *per cent.* of the observations made.

Twelve observations were made on the three insane patients who were injected with the same dose. In these a negative phase occurred in 41·6 *per cent.*

It is therefore reasonable to conclude that the general resistive power of the insane to organismal infection is less than that possessed by the sane.

A comparison of the results obtained in the different classes of cases examined to the organisms used during these observations, before and after the injection of tuberculin, would lead one to suppose that there is a difference in the resistive power to organismal invasion between these various classes.

In five control cases tested to all the organisms employed before injection of the tuberculin the tuberculo-opsonic index was 1·08. Of the seven acute cases of mental disease examined to two or more organisms, the tuberculo-opsonic index before injection was ·87, as compared with ·93 in eight chronic cases tested to all the organisms.

The five control cases gave an average index of 1·02 to *Bacillus coli.* In four acute cases the index to the same organisms was ·96, and in the eight chronic cases 1·06.

To *Staphylococcus aureus* the index recorded in the control cases was 1·1. The index in the seven acute cases was 1·01, while in the chronic cases the index was 1·12.

The index to the *Micrococcus rheumaticus* in the control cases was 1·07. In three acute cases tested to this organism the index was ·9, and in the chronic cases ·96.

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Table showing Average Indices of the Different Classes of Cases to the Various Organisms before the Injection of Tuberculin.

	T. b.	*B. c.*	*S. a.*	*M. r.*	Aggregate average.
Control	1·08	1·02	1·1	1·07	1·06
Acute	·87	·96	1·01	·9	·93
Chronic	·93	1·06	1·12	·96	1·01

To each of the organisms tested the average index of the acute cases was found to be below that of the control cases and also of the more chronic patients. The average index of the chronic cases is below that of the control cases to tubercle and *Micrococcus rheumaticus*, but slightly above the control average index to *Bacillus coli* and *Staphylococcus aureus*. As will be seen from the foregoing table the aggregate average of the control cases is 1·06, while that of the chronic cases is 1·01.

As no acute case was injected with $\frac{1}{750}$ mgr. T.R., no comparison can be made between the various classes of cases after the injection of that dose.

In sixteen observations made on the four control cases injected with $\frac{1}{500}$ mgr. T.R. eleven negative phases followed, that is 68·7 *per cent.*

Of the twelve patients who were injected with the same dose, and examined to at least two of the organisms used during these observations, seven are classified as suffering from acute mental disease. A series of twenty-one observations was made in these cases, and in seventeen a negative phase was produced, that is, in 80·9 *per cent.*

Five cases similarly injected were classified as subacute or chronic, and had been resident in the asylum from one to six years. On these twenty observations were made, and a negative phase resulted in sixteen, or a proportion of 80 *per cent.*

Table showing Proportion of Negative Phases in the Different Classes of Cases after Injection with $\frac{1}{500}$ mgr. T.R.

Controls.	Acutes.	Chronics.
68·7	80·9	80

The percentage of negative phases produced is highest in the acute cases, and lowest in the control cases. This result agrees with the conclusion arrived at from a consideration of the preceding table.

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The more chronic cases have, therefore, a greater resistive power to organismal infection than the more acute and recent cases, but they are more liable to infection than the sane healthy population.

That the average index of the four control cases injected with $\frac{1}{500}$ mgr. T.R. is higher to all the organisms used in these observations than in the corresponding twelve insane cases is shown in the following table:

Table of Average Opsonic Indices to the various Organisms prior to Injection with $\frac{1}{500}$ mgr. T.R.

	T. b.	*B. c.*	*S. a.*	*M. r.*
Control cases	1·08	·99	1·15	1·07
Insane „	·82	·98	1·04	·94

The difference in the percentage of negative phases following injection of $\frac{1}{500}$ mgr. T.R. in the control and in the insane cases is similar to the difference between their average opsonic indices before injection, the figures being 68·7 in the control cases and 80·49 in the insane cases. With the exception of *Staphylococcus aureus* the percentage of negative phases to each organism was less in the control than in the insane cases; and this was the only organism in which the amount of variation, in the figures from which the average index was calculated, was greater in the control cases than in the insane. The range of variation was from ·9 to 1·45 in the healthy, and from ·91 to 1·23 in the insane. This fact may help to explain the greater number of negative phases obtained after injection.

To estimate the effect of two different doses of tuberculin on the number of negative phases produced, the same type of case must be examined in both instances. I have only examined subacute and chronic cases after the injection of both $\frac{1}{500}$ mgr. T.R. and $\frac{1}{750}$ mgr. T.R.

Twenty observations were made on the five cases injected with $\frac{1}{500}$ mgr. T.R., and in sixteen instances a negative phase resulted, that is, in 80 *per cent.* Three cases were injected with $\frac{1}{750}$ mgr. T.R. Twelve series of observations were made in these cases after injection and in five a negative phase was produced, that is, in 41·6 *per cent.* The larger dose, therefore, produces a higher percentage of negative phases after injection.

The fact here demonstrated that the injection of a large dose of tuberculin lowers the resistive power of the human body to

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invasion by organisms other than the tubercle bacillus, taken in conjunction with the fact that the bacterial resistive power of the cases of acute mental disease is lower than that possessed by the more chronic cases, somewhat supports the view that acute insanity is due to bacterial toxæmia.

Bulloch claims to have demonstrated that the opsonic body in the blood serum is largely specific to its own special organisms. He based this claim on two experiments. He first tested the serum against tubercle and *Staphylococcus albus*. The serum was then mixed with one or other of these microbes, and, after incubating and centrifuging the mixture, the supernatent fluid was tested against both organisms. The fluid was found to have largely lost its opsonin for the particular microbe with which it had been in contact, while it largely retained its opsonin for the microbe with which it had not been digested. In the second case the serum of human beings was repeatedly tested against both tubercle and staphylococcus. Injections of tuberculin produced an increase in the tuberculous opsonin while leaving the quantity of staphylococcus opsonin unaltered, and *vice-versâ*. He, however, does not state the dose given in his experiment.

I have made no experiments of the nature of that first described by Bulloch.

I have found that with a dose of $\frac{1}{500}$ mgr. T.R. in healthy persons there is a fall in opsonic power produced to other organisms. In the one control case injected with a dose of $\frac{1}{750}$ mgr. T.R. no fall was recorded to tubercle ; but a negative phase followed in the case of the *Micrococcus rheumaticus*. There was a rise recorded, however, at the first observation made eighteen hours after injection, but this was succeeded by a fall below any point previously recorded. In the three insane cases where $\frac{1}{750}$ mgr. T.R. was given, four negative phases were recorded after injection to the three organisms which were used.

The demonstration of the specificity of the opsonic body in the blood serum is necessary to support the view that the production of a negative phase, following the injection of a minute dose of tuberculin, is diagnostic of infection by the tubercle bacillus. My observations demonstrate that for such diagnostic purposes a dose of $\frac{1}{750}$ mgr. T.R. is too large, and that to give reliable results a much smaller dose is required in the insane than in the sane individual.

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A diminution of $\frac{1}{250}$ mgr. T.R. in the dose administered caused a marked reduction in the proportion of negative phases following injection in healthy cases. A smaller dose than I have used has been found to produce a negative phase in infected cases. It is therefore probable that further investigation along the line of my observations may lead to some definite results as to the diagnostic value of the negative phase after injection of a smaller dose of tuberculin.

Conclusions.

(1) The average opsonic index of healthy persons varies little to different organisms, but in the insane the index, as a rule, is lower than in sane individuals, and the amount of variation greater, and therefore the insane as a class are more liable to organismal infection than the sane healthy population.

(2) After the injection of a large dose of Koch's new tuberculin T.R. a negative phase may follow to other organisms than the tubercle bacillus, but this result is more frequent in the insane than in control cases.

(3) Persons suffering from acute mental disease are more liable to organismal infection than more chronic cases, but the latter have less resistive power than sane healthy individuals.

(4) The insane are more liable to tubercular infection than to infection by other organisms.

Recidivism regarded from the Environmental and Psycho-Pathological Standpoints. By J. F. SUTHERLAND, M.D., F.R.S.E., Deputy Commissioner in Lunacy for Scotland.

PART III.

THE foregoing examples of degenerates, obsessionists, feeble-minded and mentally warped (1) could be multiplied indefinitely. They present minor and less striking phases of the degeneracy and mental disorders met with in asylums, and require, whether at large or in confinement, some part of the care, supervision,

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and treatment which are accorded to the major degenerates whom it has been found necessary to certify as fitted for detention in asylums. In these institutions may be seen paretic dements, paranoiacs, precocious dements (katatoniacs), maniacs, imbeciles, terminal dements, etc., prone to, and who may have committed, arson; *folies circulaires*, hysterics, maniacs, moral imbeciles, and imbeciles prone to malicious mischief or criminal prankishness; erotics, senile dements, paretic dements, alcoholics, maniacs, epileptics, and imbeciles prone to indecent propensities, rape, sexual perversion, and the entire gamut of erotic besetments; general paralytics (first stage), imbeciles, kleptomaniacs, climacterics, prone to, and who may have fallen into the hands of the authorities for, theft; homicidal maniacs, epileptics, katatoniacs, paranoiacs, puerperals, alcoholics, and dipsomaniacs who may have committed crimes of blood, cruelty and violence before certification, or who by mere accident may not. These are the many points where criminality and lunacy touch, and it seems at present either a question of the degree of the mental warp or its non-detection which decides whether the asylum or the gaol shall be the destiny of such.

It is unfortunate that so eminent and widely read an alienist as Professor E. Mendel, of Berlin (2), should now apply the term of "recidivism" to recurring insanities, seeing it had come from long and general usage to apply to criminals and offenders, and in this sense is accepted and understood by every civilised country.

Criminal and Delinquent Physiognomy.

There is thus what one might designate a functional physiognomy resulting from habits of crime, delinquency, debauchery, vice and disease, malnutrition and poverty, in short from an abnormal and unhygienic existence, mentally and materially different from the physiognomy as well as the stigmata and arrested development following ante-natal injury of the embryonic neuroblasts of the frontal cortex area in congenital imbeciles and in the feeble-minded, typified in some petty thieves, prostitutes, and vagrants. And further, if the ante-natal causation be at work in the posterior association areas, various psychic defects are met with in sexual

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perverts, habitual drunkards, and alcoholic criminals prone to deeds of violence and cruelty.

In time the causes of this functional and passing physiognomy will produce those permanent psychic changes brought about by damage to the neurons in the posterior association areas of the brain, and a fixed physiognomy. It is likely that the functional and the pathological become blended in some of the criminal and delinquent types. The furtive, restless eye, a look of boldness, cunning, and determination, is specially characteristic of the "professional" criminal, who, although lost to all sense of honour except that ascribed to them in works of fiction, feels and resents loss of liberty. The stolid apathy of helplessness, the abject look of passivity is writ large on the countenances of many petty delinquents, to whom frequent and brief losses of liberty mean nothing, and for whom the police or prison-cell has neither terror nor a sense of shame. The observer knows right well that the striking physiognomy seen, and resulting from years devoted either to crimes or petty offences, is, in a very large number of instances, of a composite character, the appearances directly traceable to the mode of life lived being inwoven with evidences of mental defect, or mental warp of the genetous or acquired type.

Criminal Anthropology.

Lombroso, of Turin, his henchman Ferri, Professor of Law, at Rome, and the other disciples of the sub-Alpine school of criminal anthropology, find ranged against them as uncompromising opponents in regard to the *criminel né* the leaders of the Northern school in France, Germany, and Belgium—to wit, Naecke (Leipsic), Dallemagne (Brussels), and Manouvrier (Paris).

Ferri, although not postulating a type exclusively anatomical, holds that the *l'uomo delinquente*, the criminal man, is a detached and complete personality, at once biological, psychological, and social, his criminality being the result of a triple coalescence of factors which are most aptly described by the French school as *facteur anthropologique*, *facteur de milieu physique*, and *facteur de milieu social*. Every competent observer recognises that a man may be born with all the stigmata associated with crime and delinquency, and yet live—provided

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he finds in his environment (*son milieu*) a sufficient resisting force—without the commission of crimes or petty offences, and conversely it is true, perhaps less frequently, he may find in his hereditary antecedents the power to resist the evil influences of his environment.

Dallemagne speaks of degeneracy as an abstract term comprising diverse physiological processes, with this feature in common, that they tend to the extinction of the individual and the species. Viewed in this light it is a normal biological process amounting almost to selection operating under the influence of individual factors, especially the environmental one. Dallemagne applies his principles to groups sufficiently uniform to admit of individualising them. In imbeciles there would be no criminality, degeneracy having ruined all capacity of *intention*; in some imbeciles and feeble-minded folk, degeneracy having damaged the intellect so far as to leave only instinctive thoughts a delinquent predisposition has been observed in the "possessed" and impulsive types. On the other side it has to be stated that there have been many instances in which there was no indication of degeneracy independent of the criminal act itself.

Biometrics and National Eugenics.

National eugenics is a comparatively new science, and associated with it is the still newer science of biometrics with its co-efficient of correlation, abscissa, etc., with which is identified the name of Karl Pearson. In his hands biometrics applies mathematical methods to various kinds of associations which do not have the absolute dependence of free causation, and hence he applies to heredity and biological data methods similar to those employed by actuaries in calculating life tables. If the same degree of certainty of results attaches to the former as to the latter, then their general acceptance is assured. Francis Galton defined eugenics as "the study of agencies under social control that may improve or impair the racial qualities of future generations, either physically or mentally."

The doctrine of natural selection is based upon the hypothesis that the healthier individual has a better chance of surviving in the struggle with physical and organic environment, and in consequence is better able to beget and rear an offspring inherit-

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ing advantageous characteristics; a profitable variation is, according to Karl Pearson, "seized on by natural selection and perpetuated by heredity," the science of biometrics measuring the degrees of variation met with, and indicating to what extent variations are inherited, and the question of interest is whether in families which present variation above or below the normal that variation will be transmitted and in what degree?

While Professor Karl Pearson's statistics and investigations go to show that degenerate stocks under existing social conditions—in other words, a humanitarian *régime*—are not short lived, and have more than the average family, it would hardly be safe to accept this beyond two generations; indeed, it would not be a matter of much difficulty or doubt to predict what would happen in the third and successive generations if unions of the "unfit" continued. The stock would be wiped out; and while it is exceedingly doubtful how far this doctrine of degenerate stocks being neither short-lived nor failing to beget the average size of family is true of one generation of the vicious, habitual drunkards, and degenerate criminals, it is not doubtful of succeeding generations of these. The experience of the writer as to age and procreative capacity is in quite an opposite direction, for reasons recorded in the development of this monograph. Comte declared that sociology is impossible without biology, and to this doctrine any disciple of race efficiency may subscribe without reservation.

Degeneracy.

This is a comprehensive term physically as well as mentally, which as yet has only a relative meaning and value, and it is doubtful if it will ever be anything else. Dr. John Macpherson, Commissioner on Lunacy for Scotland, who has studied the question, has given me his views ([3]). "For general purposes," he says, "the word 'degenerate' is restricted to the feeble or defective manifestation or development of qualities which are common to a race or species. The definition is an arbitrary one, for variation is continuous and gradual from the mean of any quality to the most aberrant specimens whose places are at the extreme end of the abscissa of the curve of which the mean is the centre. All we can say is that a living being is degenerate when to a certain degree, more or less indefinite, it falls short of

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the type of the qualities of its race or species. Imbeciles are degenerate, but they merge by continuous gradation into the normal type of mind through every degree of increasing and perfected intelligence. In the same way deformities are signs of degeneration, but there are all degrees of deformity which gradually become unrecognisable in the perfect animal form." The adverse circumstances which induce acquired degeneracy as distinguished from genetic degeneration which depends solely upon variations of the fertilised ovum are ante-natal (intra-uterine), applied at an early stage of the ontogeny, and before the development of the organism is completed, and post-natal, resulting from such environmental factors as diet and toxines, such of the alcoholic and syphilitic types, the nature of the occupation, insanitary dwellings, etc.

It is believed by biologists that within certain limits the earlier the organism is subjected to inimical conditions the greater will be the interference with its development, and the more pronounced will be the degeneration. And if this position be accepted as a feasible one is it to be wondered that among criminals there are so many degenerates? It is held by biologists that the male embryo is much more liable to variation and degeneration than the female. Does this in any way explain the greater number of male criminal degenerates than females? Another proof of the degeneracy prevalent among criminals is the relative sterility in evidence. The ranks are mainly recruited in a way already explained. There is this great difference between genetic and acquired variation, while the former are hereditary the latter are not transmissible. Genetic degeneration as things are, and, indeed, as they are likely to be, is beyond control, there being no artificial selection; acquired is clearly preventable.

The Causation of Recidivism.

As has been pointed out, the springs of criminality and delinquency are (*a*) inherent (internal) and (*b*) external to the criminal, and may be summarised as follows:

(*a*) *Inherent.*—Degeneracy of the genetic kind *plus* an unfavourable ante-natal environment, which makes those with this hereditary mark unstable and incapable of appreciating and following the standard of life and conduct—wide enough in all

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conscience—which society has laid down for the guidance of its members. Much infringement of the moral law and its commands is tolerated before the criminal laws of a free country interpose. As society is constituted selection is out of the question, and there is thus no remedy for this as there is for the unfavourable ante-natal environment produced by toxines such as alcohol and syphilis. Owing to comparative sterility, and utter indifference to every law, human and Divine, and a high mortality among degenerates, their numbers do not increase.

(*b*) *External.*—Embraces all the economic and social conditions favourable to its production and continuance. This is the great post-natal environmental factor in its numerous and far-reaching aspects, and so long as the conditions and environment continue, so long will recidivists be reared. Some of these may be mentioned: insanitary slum dwellings and one-roomed houses, in which the decencies of life are not possible (birth, death, wedlock, sleeping, feeding, ablutions), alcoholic excess perhaps as often the sequence as the cause of human degeneration, idleness and debauchery, disregard of public opinion, ignorance, a miasmatic atmosphere from the cradle to adolescence and onwards inimical to health and morals, the lack of suitable employment adapted to the physical and mental capacity of the individual, the absence of a living wage for unremitting and, it may be, uncongenial toil. These sensibly affect a majority of recidivists, and are clearly preventable by a readjustment of the social condition, a better distribution of the profits of labour, the sweeping away without compensation of slumdom, and the substitution of healthy and cheap dwellings possible by a change in the laws appertaining to land, and the education of this class to live in human and decent ways.

For the unemployed as well as unemployables there are, as a rule, three portals open, *first*, the parasitic life of the slums, *second*, the life of the tramp, and *third*, a life of open crime and defiance of the law. It is not a necessity for the entrant to either category to be of the "unemployed." There are those who have no excuse of that kind who recruit the ranks of all three. Among the unemployed one finds roughly three classes, the genuine poor, who cannot get suitable work and who suffer more than any other class; vagrants and paupers, who have

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given up the struggle, or being constitutionally averse or incapable abandon themselves to a life of dependence and parasitism; and the criminal who has passed through the first class, avoids the second, and enters upon a life of deliberate warfare against property.

There is a kind of recidivism unfortunately too common that is, so far as one can judge, without excuse, and that is the recidivism of the professional criminals whose environment has been correct, who have received a fair or good education, and who have been trained to habits of honest industry as labourers or skilled workmen, but have deliberately abandoned these and embarked on the sea of fortune and reckless adventure. Some of these, it is to be feared, society will always have in its midst to control by present or improved penological methods.

Herbert Spencer, in his *Prison Ethics*, referring to the person whose recidivism is deliberate, ventured the paradox "that mankind go right only when they have tried all possible ways of going wrong." The paradox falls short of the truth, and he adds, "Instances have shown me that when mankind have at length stumbled into the right course they often deliberately return to the wrong." This is true of professional recidivism.

It has been stated and proved by Quarrier (Glasgow), Barnardo (London), and other philanthropists, that if 1,000 children at a plastic age from the better classes were placed in slums, and amid environments of a noxious kind they, whether normal or degenerate, would, as a rule, become as the slum children; and *vice-versâ*, if 1,000 slum children were removed to healthy, moral, and physical environments they would, as a rule, turn out well and become law-abiding and productive members of the community, the physical and mental degenerates among them receiving special care.

Sir John McDonell, Master of the Supreme Court, in his introduction to the *Judicial Statistics* (Part II) of last year, makes some valuable suggestions of a sociological order. He indicates that while crimes against property are no doubt affected by the conditions of employment and wages, the large class of non-indictable offences are connected with the consumption of alcohol, and the consumption of alcohol follows the movements of trade, increasing when it is prosperous and declining when it is bad, the reverse being true of indictable and non-indictable offences against property.

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He warns the public that the theory of a close connection between crimes and drunkenness must be viewed with caution.

Pathetic, indeed, are his observations on the prison population: "The prisons are peopled by the very poor, the very ignorant, and the unskilled."

It is felt by the votaries of natural selection that this law is greatly interfered with by the humanitarianism of the age. Of such critics and observers Bernard Shaw is the high priest, and he puts the case forcibly, if laconically, thus: "Being cowards we defeat natural selection under the cover of philanthropy; being sluggards we neglect artificial selection under cover of delicacy and morality," and the two remedies of sterilisation of the "unfit" and "State controlled marriage bureaus," with its staffs of medical and legal directors, are put forward to improve the race and to prevent degeneracy. As to the first, if it means isolation, good and well, if it spells mutilation it is not likely to be entertained; as to the second, it is something in the nature of a Utopian dream, because while it might prevent undesirable unions that now take place, it would not prevent the production of a degenerate offspring by couples who failed to get the marriage bureau permit. It would be as reasonable, and no less ridiculous, to give the marriage bureau power to compel marriages of the certified fit, or alternately to tax fit spinsters and bachelors who fail to contribute to race efficiency.

Discussing this question, Sir Arthur Mitchell, K.C.B.(4), put the case against the "natural selection" advocates with force and lucidity. Writing from a wide knowledge and experience, he points out that considerable "variations" of the degenerate type are met with in animals even when artificial selection is followed, instancing sheep, and the annual crop of "sholts" or weaklings; and in humans following what any "marriage bureau," if it existed, would call healthy marriages. This, he says, is the unexplained law of nature at present. It will be admitted, of course, that the union of "unfit," and these are very few when wedlocks, as a whole, are looked at, must eventuate in a much larger production of variations of the sub-normal type, even if these in the aggregate, as is the case, are few compared with the variations met with in the families issuing from healthy wedlock. In this connection the writer may refer to the views regarding imbeciles and feeble-minded persons he submitted to the Royal Commission on the Care

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and Control of the Feeble-minded ([5]). After demonstrating by numerous examples the close intimacy existing between, on the one hand, imbecility and feeble-mindedness, and, on the other, illegitimacy, and the presence of both in two or three generations living under one roof, it was suggested by one of the Commissioners that if such mothers—for the *faux pas* requires to be made before public interference could well take place—were put under control and supervision, the production of imbeciles would to a large extent cease. So far as imbeciles are begot in this way no doubt it would, but as imbecile "variations" appear not unfrequently among the offspring of, to all appearances, healthy marriages, and these are the vast majority of marriages, and as illegitimacy is, in Scotland, only 6·7 *per cent.* of the birth-rate, and the imbecile illegitimate only a fraction of this, it follows that, as the law of nature or natural selection stands, imbecile and weak-minded variations may, for some unexplained reason, be expected. Male imbeciles are not, and the feeble-minded males are only to a small extent, offenders in this respect. As a rule the male weaklings are denied the procreation of their kind. But whatever the fecundity of female "unfits," as a rule, the physically and mentally weak offspring in urban areas die off in spite of humanitarianism.

The Criminal Law in Relation to Free Will, Responsibility, and Punishment.

In the foregoing pages some idea was given of the hot disputations that have gathered round the place of criminal anthropology in relation to recidivism. And round the complex question of "heredity" and "degeneracy" there is even a greater variety of opinion, just as there is over the attitude of the criminal law to free will, responsibility, and punishment. One is thankful in the contemplation of so much confusion and contradiction in regard to these thorny points to be able to record that, in regard to the overshadowing environmental factor, the prophylactic measures required, and the need for the further evolution of our penal system in the light of further knowledge and experience, reformers are practically agreed. For after all these latter are the factors that mainly work for the good of society and of society's enemies, enhanced, no doubt, if sound and correct views could be stated with modera-

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tion and accepted in regard to the other debatable and difficult questions.

It would serve no useful purpose to elaborate here the attitude of the criminal law and its interpreters at different periods towards crimes as a whole and specific crimes, and the punishments meted out to deter law breakers. That is a matter of history, ethics, and jurisprudence. A brief outline will suffice.

In the usual conception of crime the intentional and voluntary (*i.e.*, free will) transgression of the law is assumed in spite of protests to the effect that such a conception fits no fact in human experience. This was the dictum of Erskine, the eminent jurist, and accepted by his contemporaries and successors on the bench, and opposed by psychologists and metaphysicians. It will be apparent that at once the question of the absolute or relative action of free will is raised. Volition, according to Huxley, is the impression which arises when the idea of a bodily or mental action is accompanied by the desire that the action should be done, and the question now before us is whether this volition is free or determined. Such a conception should give pause to the advocates of the doctrine, and the lengths it will carry them, that the will is free, seeing how it is acted and reacted upon by such motive-forming causes on mind as well as body as those of environment and natural laws.

And nowhere in this report is the attitude of the criminal law ([6]) more mistaken than in relation to the vast proportion of petty offences connected with drunkenness, and a small proportion of crimes, those of blood, violence, and cruelty indissolubly associated with the same cause. It is a most anomalous attitude if it be accepted that the state of intoxication is a brief state of insanity, but the anomaly is heightened by contrast with the attitude of the civil law, which to all intents and purposes shields the drunkard from the evil and disastrous consequences of civil acts, testamentary dispositions and contracts, etc., made in a state of intoxication. Manifestly volition is seriously affected by a toxic agent from without, acting directly on the brain, and remotely after it has induced permanent pathological changes of the brain and other viscera.

A safe ethical and sociological maxim is that the idea of wrong depends upon the moral, intellectual, and physical damage or injury which volition and action brings to society. The idea of

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freedom has been, as stated, the basis of criminal law, and where believed in without qualification or reserve has set up the *lex talionis* with its train of oppression, blood, and martyrdom. The legal conception of free will is as ill-founded and as reprehensible as the unqualified Calvinistic doctrine of predestination in which freedom of will has no part. Both are extremes, and the middle course of relativity governed by environmental and psycho-pathological conditions is one to meet with acceptance. It is not to be inferred that an actual or potential criminal is to be at large and society unprotected until it was ascertained whether or in what degree he was innocent or guilty from the standpoint of freedom of will. For such contingencies society and its law makers has, to a very large extent, made provision. Maudsley, whose views have always commanded respect, writes "that every student of sociology knows that just as there are manifold gradations of intelligence from the highest intellect to the lowest idiocy, so also as natural phenomena there are many degrees of moral power between the energy of a well-fashioned and disciplined will and the complete absence of moral sense." The relativity of will power, of moral sense, and the exercise of both thus set up inevitably leads up to relative responsibility and relative guilt. A doctrine such as this, made to fit into the criminal law and criminal reform, would apply if the punishment fitted the criminal in a major sense and the crime in a minor, or not at all, as is now being strenuously urged. The knowledge of defective organisation in the case of many criminals and offenders cannot but tend to justice and more tolerant views of, and less hostile feelings towards, so many of the doubtful cases inhabiting the borderland between insanity and crime, and to bring about this altered view the metaphysical notion of responsibility which Maudsley aptly describes "as an abstract being endowed with a certain fixed moral potentiality to do the right and to eschew the wrong," and "that in regard to erring nature it must be received as a scientific axiom that there is no study to which the inductive method of research is not applicable."

A caveat requires to be made to the effect that this doctrine of relativity of freedom of will and of responsibility is not intended to apply to the "professional" criminal, who is the greatest menace to society, and who, to gratify indefensible acquisitive propensities, will, to attain his object of plunder, stick at nothing,

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his watchword being in too many instances "your money or your life."

Dr. C. Mercier (7), whose writings and opinions have found acceptance at home and abroad, both at the hands of jurists and physicians, puts the matter thus: "Desire is the motive of all conduct," and traces it "to one primitive and fundamental craving which lies at the root of all human as of all animal dispositions." Further, "Desire antecedes choice, and *à fortiori* antecedes volition," and if there be no disorder of will or intelligence, then I think responsibility attaches as soon as desire obtains the sanction of will.

It will be felt from this line of argument that there can be no breach of the criminal law if in the act the will of the agent had no real part. For such a proposition there are three special lines of defence—the physiological, the psychological, and the metaphysical, the author's extensive survey of the first revealing among criminals and offenders abnormalities, somatic, cranial, and facial; the second, moral insensibility, lack of ordinary intelligence, perverted sentimentality, and extreme emotionalism not met with to anything like the same extent in the general population. To such a being tack on the effects of a vicious environment—for environment moulds character—and is it surprising that it should be held by so many competent observers in regard to many criminals and offenders that there is no such thing as absolute freedom of the will, but at the most a relative sanction to the commission of misdeeds?

But the trend of this discussion in regard to volition and responsibility at once raises the question of punishment, which must follow, because, call it by what name you may, the loss of liberty incurred by feeble-minded and degenerate habituals, including habitual drunkards, through detention in asylums, labour colonies, etc., spells to these breakers of the law punishment, it may be more agreeable than the present, although this will to some extent depend on the time limit, and many of them, although mentally warped and defective, will not appreciate society's decision in regard to their good, and will with the intelligence they possess clamour for liberty.

Punishment cannot be dispensed with even in asylums, in which the proportion of the "intellectually dead" is much greater than would be the case in labour colonies, inebriate retreats and reformatories. Insane persons, both with defective

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and disordered intellects are for misconduct deprived of *parole*, of privileges which they value and appreciate more or less, such as tobacco, entertainments, dances, etc., and conform to discipline. Indeed, the conduct of the insane of every degree is influenced more or less by the ordinary motives of reward and punishment which govern the conduct of the sane, and in like manner the conduct of criminals and delinquents with or without mental warp; and while that mental defect or warp, evident to the trained observer, lasts and unfits them for absolute freedom, their conduct as to petty larceny, drunkenness, prostitution, vagrancy habitually indulged in, will, under present conditions as to living and conduct, continue. With that restricted freedom under supervision after adequate detention in reformatories, etc., it would be reasonable to look for considerable improvements.

There is a legal and judicial view of punishment which requires to be stated, that is, the deterrent one—deterrent to the guilty, and through them to others. Except in regard to "professional criminals" (swindlers, resetters, housebreakers, garotters), there could be no greater fallacy. From the mouths of judges the deterrent view falls on the ears of habitual drunkards, weakminded petty thieves, the authors of deeds of violence and cruelty committed in a state of intoxication, in the dock practically unheeded, and to those at large who may see it in print or hear of it, it might as well not have been uttered. Considering the object in view, this may be unfortunate, but it is the case all the same. With the felon referred to it is different. His conduct is deliberate, and the risks of return to prison are coolly faced, escaping detection and justice as he often does, which is an encouragement to wrong-doing.

Not once but often the writer has heard judges of the supreme court, of sheriff courts, and of police courts solemnly declare that in the interest of society and of public safety and order, the sentences passed on the perpetrators of murder, homicide, grave assaults, etc., and on "drunks and disorderlies," would act as a deterrent to the culprits, and to others who contemplated breaches of the law. And yet immediately following severe sentences for homicides, assaults, and cruelty to children, the greater part of which were committed by reckless persons in an intoxicated or semi-intoxicated state, and for the offences of drunkenness and disorderly conduct, the record

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of apprehensions for them all a day or two later touched a high figure. Underlying the warning, excellent in its objects, uttered, there is this fallacy in regard to the crimes and offences specified, that the authors do not take drink, whatever may be the cause for the habit—either a neurosis or social customs—in order to commit these crimes and offences. These are incidents of one or of many bouts producing a sodden state of mind and body, and the marvel is that, when the week-end debauches and their sordid results are unfolded *ad nauseam* on Monday morning in police courts, not one but many homicides are the results. It is not the fault of the assailants that these are not multiplied a hundredfold.

What is the reasonable and rational conclusion to be deduced for this line of argument? Surely one that it is not safe to dogmatise as to the responsibility of the largest section of petty offenders and a small section of criminals, the "inverts" and "perverts," the "can't workers," and the "born tireds," if with the average citizen reared and living under normal and healthy conditions, absolutism as to free will, and anything like perfection as to conduct is not looked for, but rather relativity. There is much to be said for the relativity of the responsibility of the derelicts of society with all the drawbacks and disadvantages of environment, bad heredity, and a degeneracy bequeathed or acquired.

Justice in the highest and best sense of the term renounces the law of vengeance, and human laws are presumed to follow closely after this ideal, and thus it should be that the main purpose of punishment should be the protection of society and of property by the reclamation by improved methods of habitual criminals and offenders who are salvable, and by the sequestration of those not so under safeguards. And when this is done punishment will at least more aptly fit the criminal and offender and lessen crimes and offences than it has hitherto done.

Crimes and Offences.

No attempt is made in this monograph to define a "crime" ([8]), or an "offence," or what is meant respectively by a "criminal," or a "petty offender," or "delinquent." For all practical purposes a "criminal" would mean in England and Wales a person guilty of one of the eighty-three "indictable" offences tabulated

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in England, and in Scotland one of the fifty-four "crimes" tabulated in Scottish Judicial Statistics. Correctly speaking, and for statistical purposes, "offences" in any country should refer to minor breaches of the law referred to in English statistics as "non-indictable offences," and in Scottish as "miscellaneous offences." There may be legal difficulties in altering terms, but there can be none in asking for a better classification in blue-books, such a classification, for instance, as would in England remove "aggravated assault" and "cruelty to children" from the "non-indictable" to the "indictable" list, and on the other hand removing from the "indictable" to the "non-indictible," "indecent exposure," "habitual drunkenness," and "suicide" (attempting to commit). Similarly in Scotland it would be both proper and advantageous to remove from the "crimes" to the "offences" list "indecent exposure," "drunkenness under Inebriates Act," and many cases of "petty thefts," and of "malicious mischief." This latter term embraces trivial as well as serious breaches of the law, and yet they all appear as "crimes." Not so in England, where a distinction is made, some properly appearing as "indictable," some as "non-indictable." The truth is, certain breaches of the criminal law should, depending on their nature, appear in both classes. It is possible so far to form some idea of what is meant by a "crime" and what by an "offence" by a regard to the Courts in which these are unfolded. Thus in England "indictable offences" (the Scottish equivalent being "crimes"), five out of every six being cases of larceny, the perpetrators of which in 63 *per cent.* were "repeaters," refer to persons prosecuted on indictment before assizes, quarter sessions, and summarily under the Summary Jurisdiction Act of 1899, while "non-indictable" to persons prosecuted in courts of summary jurisdiction, police, and justice of peace courts.

In Scotland "crimes" are unfolded in the High Court of Justiciary in Edinburgh or on circuit, in sheriff courts after full committal and summarily without full committal; "offences" in sheriff courts without full committal, in police and justice of peace courts.

Having regard to these points it should not be difficult to differentiate between "crimes" and "offences," "criminals" and "offenders," nor to set up an improved nomenclature and classification. It is as difficult for the statistician as for the

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psychologist to understand why crimes against chastity governed by the lust factor, and considered apart from the possibility of mental flaw, are classed with crimes of violence and cruelty with which they have no ætiological connection whatever. They constitute, it may be small, a class by themselves.

Now if these be the two accepted types of recidivism which the authorities have to contend with, it seems but proper to fix, in a general sense, without the law laying down hard and fast lines, the number of convictions which would constitute a recidivist in each.

It will be apparent to anyone with knowledge of the subject that "professional," as well as "habitual," recidivists engaged in serious crimes against the person and property, owing to long periods of imprisonment will not have the same opportunity of gratifying their acquisitive desires as habitual petty offender recidivists, who, in consequence of brief losses of liberty—quite long enough for them, as a rule, so long as the punishment is roughly made to fit the injury done to Society—run up in a short time a big score, as much as twenty convictions in one year.

There would be nothing suggestive of harshness in fixing the number of convictions to constitute a felon recidivist at two in one year or four over any period, nor four in one year and seven over any period in the case of a petty offender recidivist. So that no injustice might be done either, the court investigating such case would, before making its pronouncement, take into its consideration the history, habits, occupation, associates, etc., of each; and in this way it would be possible to suspend a sentence of lengthened social sequestration where it was ascertained that although the specified number of convictions had been run up, yet the accused, as a rule, was engaged in honest industry, and contributed some share to the well-being of the community.

It should be kept in mind that the mental element enters largely into "crimes," specified as "attempting to commit suicide," "habitual drunkenness," "indecent exposure," many of the sexual crimes, many of the petty larcenies, and the numerous homicides and assaults associated with drunkenness; and into "offences," such as "drunkenness," "prostitution," and "vagrancy." And yet on the authority of Sir John Macdonell, in his introduction to the *Criminal Judicial Statistics for England* for 1902, "there is comparatively rarely an inquiry

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into the mental condition of prisoners unless in the case of grave offences such as murders."

Crimes and Offences (An Addendum).

Among the authors of the various crimes and offences specified, there are certain well-defined types met with. There are *first*, the sexual perverts; *second*, the individuals low down in the social scale, who, in the grip of one or numerous bouts of ethylic or methylic alcohol, commit deeds of violence and cruelty; *third*, thieves, embezzlers, resetters, housebreakers, etc., professional criminals who live by plunder, whose intellectual and instinctive activities are normal, and whose conduct is governed by avarice and acquisitiveness; *fourth*, the habitual drunkard and prostitute, feeble-minded or neurosed from the start, or becomes so by long indulgence to excess; and *fifth*, the vagrants and unemployables, the "born tireds" of Pett Ridge, who are decidedly below par mentally. These few classes have been divided by observers into "perverts" and "inverts," the perverts or "wont workers" being as a rule active criminals, the inverts or "can't workers" passive delinquents. The skilled house-breaker and burglar speaks with contempt of the inverts as "mugs." A true pervert also, although not an habitual, is the forger, the fraudulent company promoter, and dishonest financier with considerable intellectual gifts. In the main this division into "perverts" and "inverts" may, with reservations, be accepted as sound.

Whatever their intelligence and capacity, it will be shown later by an anthopometric survey of these that their growth is stunted and their stature much below the average ([12]). Some psychologists maintain that society is permeated with potential criminals, all that is lacking being opportunity or necessity, which would mean acceptance of the French proverb, *l'occasion fait le voleur*. There is less than the proverbial half truth in this proverb, uttered without regard to the social environment and the mental defects and disorders met with in criminals and delinquents.

Statistics of Crimes and Petty Offences in Great Britain for 1903.

It is but to utter a truism to say that the face of society, as a whole, and in all its ramifications in this or in any

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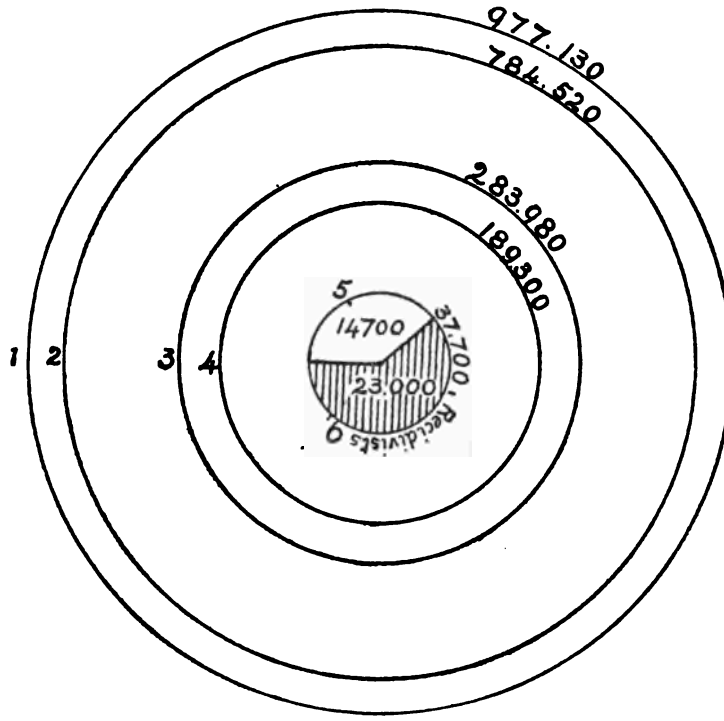
country, is not stainless. Rather it is mottled all over by the actions of its law breakers as well as by those who transgress every article of the moral code when opportunity presents itself, but skilfully avoid the meshes of statutes, and on this mottled area there stands out in bold relief the dark and discreditable blot of recidivism, perpetually hanging like a pall, which has hitherto defied lifting in spite of many and costly attempts made by the legislature. There is no single panacea for the evil; there could not well be, seeing that underlying it are the



great social problems of our age, *viz.*, intemperance, the housing and land question in relation to slum and one-roomed dwellings, poverty, vice, illiteracy, lack of parental training, responsibility, and degeneracy both physical and mental. The bare mention of these factors shows how complex the problem is before the mentally defective and the incorrigibles, making up the recidivist army of 37,700 of both types in Great Britain, are reached and treated on rational lines. But at the same time it can be said that the problem admits of some solution,

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and of results infinitely more satisfactory than those resulting from the unscientific and irrational prophylaxis and treatment of crime and delinquency in the past. The optimism which points a better way is ultimately bound to prevail over the pessimism and the *non-possumus* attitude of the past. At present the best legislative, administrative, legal, and medical minds are turned to the problem, and remedies and suggestions put forward as to the best means of coping with this festering social sore.

Decent housing, education, a living wage, sobriety, employment in harmony with varying physical and mental capacities leave much to be desired. Some of these factors made the dishonest and professional *habitués* who, in the beginning of last century, were the terror of the hulks and gaols of England, fairly respectable citizens of Australia, and by some said to be fairly entitled to a share in the building up of that prosperous colony, which is free from much that is regrettable in the social fabric of older countries, such as poverty, intemperance, and crimes and offences.

	Apprehensions and citations.	Convictions.	Number of imprisonments.	Number of individuals imprisoned.	Recidivists.
England .	810,950	660,300	223,910	149,300	33,000 { (*a*) 20,000 (*b*) 13,000
Scotland .	166,180	124,220	60,080	40,000	4,700 { (*a*) 3,000 (*b*) 1,700
Total .	977,130	784,520	283,990	189,300	37,000

(*a*) Criminal recidivists; (*b*) petty offender recidivists.

By comparing the statistics of (1) apprehensions and citations, (2) of convictions, (3) of the number of imprisonments, (4) of the number of individuals represented by these imprisonments, and (5) the number of recidivists engaged both in "crimes" and "petty offences" for England and Scotland, and illustrating them by concentric circles arithmetically constructed, Great Britain's criminality, delinquency, and recidivism not only may be seen at a glance, but also, what is of value, their true purport. In this way the taxpayer and reformer will be enabled to avoid taking too gloomy a view of the situa-

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tion, bad as it undoubtedly is in the most favourable light from the ethical as well as from the financial standpoint.

Nearly a million apprehensions and citations by the police in one year, or one to thirty-eight of the population, is a staggering fact, whether considered ethically, statistically, or financially, and provides food for serious reflection as to whether, after all, things social, penal, legal, and administrative are for the best in a country whose prosperity and Government as a whole are both the envy and admiration of less favoured countries. Evidently there is considerable room for improvement after every possible explanation is made to minimise the magnitude and significance of nearly a million apprehensions in one year in Great Britain. After the lengthy trials of past methods and ideas the times are surely ripe for a somewhat different and more enlightened prophylaxis and treatment, involving changes in our judicial, police, and penal systems, in the duties and obligations of society, and in a better understanding of the physical and psychical characteristics of chronic law breakers themselves, necessary to meet the case. This, no doubt, is a large order, but it has to be faced courageously and tenaciously if a better way is to be found. The beginning of the twentieth century saw things social, legal, and penal, vastly different from what they were a century, or even half a century, earlier, but a further evolution of the criminal and delinquent problem on new lines is clamantly called for.

It will be observed that with convictions the approximate million of apprehensions falls to little more than three quarters of a million, or 1 to 47 of the population. With imprisonments it shrinks to little more than a quarter of a million, or 1 to 131 of the population; and these latter in turn represent only 189,300 individuals, or 1 to 200 of the population engaged in crimes and offences calling for imprisonment with or without the option of fining. And among those in confinement and at large there are approximately 37,700 recidivists, in round numbers 1 to 1,000 of the population, imbecility and nsanity being, according to last census, 4·2 per 1,000.

The 37,700, having regard to the nature of the criminal and delinquent tendencies manifested, may be divided into two sections, 14,700, or 1 to 2,540 of the population, representing the genuine criminal recidivist of the professional type, and 23,000, or 1 to 1,620, the chronic drunken, disorderly, nomadic,

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and petty larcenous delinquents. This division is a necessity for statistical as well as reformatory purposes, although it is often ignored by authorities, who speak and write as if they were all of one type.

The figures for England have been slightly adjusted, not only to admit of comparison with Scotland, but for the valid reason that the somewhat arbitrary division of crimes and offences of the former country into indictable and non-indictable in the police returns and in official compilations leaves many crimes, such as aggravated assaults wholly, cruelty to children mostly, malicious mischief and petty thefts, partially in the category of "non-indictable" offences, whereas in Scotland they all appear under "crimes." It would be better if in both countries these were divided into two classes, those considered serious and those not so, and these it would be possible to allocate respectively to "indictable" and "non-indictable" offences in England and to "crimes" and "miscellaneous offences" in Scotland their quota of each, so long as these are the terms in use in official returns. The present arrangement and classification is capable of improvement.

There are, it is evident, considerable differences in the statistical representations of criminal and delinquent manifestations in England and Scotland. To begin with there is 1 apprehension, etc., to 40 of the population; in Scotland 1 to 27. Scotland's share in comparison with England is 5 to 1, whereas, according to the respective populations, it should be much lower, *viz.*, 7 to 1. It is not to be supposed that the Scottish character on its erring side is 48 *per cent.* worse than the English, and to this extent loaded with original and acquired guilt. Rather it is to be attributed in part to the attitude of the police and magistracy in Scotland towards the hordes of petty offenders that come before them. In Scotland, it may be said, nearly every petty offence is dealt with by the police, often unnecessarily vigilant and hauling their captives, more especially "drunks," to police cells, when, in many cases, it is safe to say it would be possible and preferable by magisterial regulations with legislative sanction, if necessary, to remove them to their homes at their own or their relatives' expense, met at the time or afterwards, by giving time to the offender to recoup the public outlay incurred in an evil hour on his behalf or to find security. The enormous totals would melt away in an astonishing fashion if drunken-

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ness, petty thefts, prostitution, and disorderly conduct in association with drunkenness in Great Britain were excluded. Thus simple and minor larcenies amount to 57,735, or 61 *per cent.* of all indictable offences; drunkenness, disorderly conduct, and prostitution to 403,260, or 45 *per cent.* of all non-indictable and miscellaneous offences; breaches of Vagrancy Acts 65,018, or 7·4 *per cent.*; and offences against police regulations, road and highway, labour, factory, sanitary, poor, education, game, etc., laws, 328,030, or 39 *per cent.*

This suggestion has chiefly reference to casual offenders and "pay day" drunkards, who on occasion behave foolishly, and not to the habituals, who neither toil nor spin and yet live, and, like derelicts, drift in the tide currents, especially the sunken ones of society, finding in the course of their movements the prison-house something of the nature of a sanatorium in which to spend each alternate week of their existence, which is thus prolonged by a system which Bernard Shaw speaks of as ultra-humanitarian and calculated to defeat the law of natural selection. Further, in Scotland as in England there is no such thing as private prosecutions by aggrieved parties. This procedure, peculiar to England, is to some extent, and to a much less extent than the respective attitudes of the magistracy and police to "drunks," explanatory of the more favourable position of England statistically, for many defendants in consequence escape the consequence of their misdoings, there being more frequently than not no prosecution.

For a moment let the convictions and imprisonments be examined. In England the former is 1 to 49 of the population, in Scotland 1 to 37; the latter 1 to 146, and 1 to 76 respectively, Scotland in the matter of imprisonments being thus double that of England. This excess for Scotland has already in part been explained. The rest of the explanation has to be sought for in the imposition of higher fines for drunkenness and disorderly conduct, and in the prevalence of briefer and more useless sentences in Scotland, and consequently more frequent opportunities to repeat the offence. Perhaps the national beverage of Scotland has got something to do with a difference so adverse to the smaller country.

Felony and criminal recidivism is, on the other hand, in the opinion of the writer, in proportion higher in England. This is intelligible, having regard to its numerous dense urban

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populations, with its inevitable slumdoms, as things are, sheltering and breeding a coarser and more daring type of felon.

No matter, however, which the type of recidivism, there need be no doubt that many of the rank and file of both types are physically weak and degenerate, feeble-minded, mentally perverted and obsessed in various directions, and therefore cannot conform to society's conditions without the help of the moral "go-cart," implying the care and supervision of those more happily circumstanced mentally, morally, and materially, denied under present methods. How far the will is free in regard to conduct will be discussed later.

Impressive and significant were the words of the French Minister of the Interior, who seventeen years ago visited the haunts of the recidivist both in Liverpool and Glasgow and saw for himself the degenerate race types: "Surely these things are not without a remedy in a land where blows the breeze of freedom, and where the Christian faith soars high above the coarse ties of flesh." The fulfilment of this hope, shared by everyone who knows the problem, is still awaited.

Recidivism in Relation to Lunacy.

The large circle (*a*) is designed to represent the population of Great Britain, the smaller one the imbecile and insane (*b*) as revealed by last census (153,000), and criminal recidivists (*d*) (14,700), and petty offender recidivists (*c*) (23,000). Of criminal recidivists it is not wide of the mark to say that one-third or 5,000, are pathological specimens and suffering from physical and mental degeneracy characterised by mental warp, instability, and feeble-mindedness. These defects are to be found chiefly among petty thieves, sexual perverts, and the authors of crimes of blood, violence, and cruelty associated with drunkenness. Of petty offender recidivists it is equally safe to hold that two-thirds, or 15,300, are pathological in the same sense. These include habitual drunkards, prostitutes, and vagrants. England's share of pathological specimens requiring classification and differentiation of treatment, indeed something different from the present cast-iron system, would by this calculation be about 17,600, and Scotland's 2,500, or figures nearly equal to their respective present daily prison populations. Under present methods, penal treatment has no

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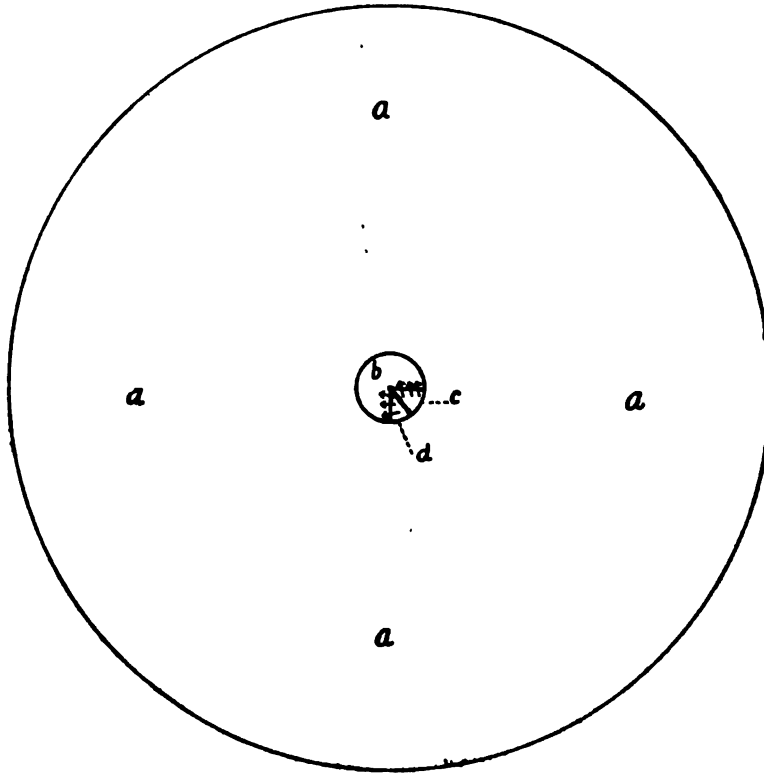
effect, certainly no reformatory effect, except to prolong their lives by the sanatorium treatment, aptly referred to by the Home Secretary ([8]).

The arrow-heads indicate the interchanges which take place, some of the degenerate, feeble-minded, and morally insane recidivists passing from (*c*) and (*d*) into (*b*), the insane zone, from which a proportion emerge after a brief—by some considered a too brief residence. Except in the case of many petty



thieves, prostitutes, and habitual drunkards of the female sex, who pass freely from (*c*) to (*d*), there is little or no interchange. As a matter of fact and experience all such are in reality petty offender recidivists. It is difficult to see how the stay can be prolonged in asylums under the present lunacy laws. For the great majority it would perhaps be better to evolve a somewhat different kind of institution from the asylum or prison, such as has been foreshadowed in labour colonies, inebriate

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retreats, and reformatories such as are to be found at Borstal and Chatham.

The eminent Tuscan jurist Rosadi (9), in his recent work on *The Lost Ones of the Race*, appears strongly in support of the psychiater in connecting crimes with mental diseases, and the "diseased developments" in the moral world of Carlyle are now admitted by the law and practice of Italy. "Inhibitory paresis," the *bête noire* of the juridical doctrinaire, he puts down as a pathological condition capable of proof, and from his unrivalled experience shows that crime may be coincident with morbid deviations from physical health, that these deviations are both inherited and acquired, and that, as a prophylactic on the entrance of the child into school, something like a *dossier* should be prepared by the school doctor, which would be available, if need be, for reference at any period of his life. The views and writings of this authority are calculated to give a strong impetus to the solution of the problem.

The uniformity of the past in every detail of prison life, suggestive of a mechanical, automatic existence, need only be perpetuated in one, *viz.*, compulsory detention for varying and indeterminate periods. The various kinds of labour, and the conditions under which these will be carried out, clothing, diet, visits, letter-writing, rewards, room furniture, education, and training naturally would cease, to a very large extent, to be conventional, unnatural, and monotonous, and the faculty of speech would no longer be repressed, but exercised under safeguards.

(1) *Vide* Article II, p. 568, July, 1907, of *Journal of Mental Science*.—(2) Mendel, Berlin, *Lietbaden der Psychiatrie*, 1907.—(3) *Vide* "Morison Lectures," Royal College of Physicians, Edinburgh, 1906.—(4) Science article in *Scotsman*, December, 1907.—(5) Sitting in Edinburgh, June, 1906.—(6) "The Jurisprudence of Intoxication," by J. F. Sutherland, *Edinburgh Judicial Review*, July, 1898.—(7) *Criminal Responsibility*, Clarendon Press.—(8) The Right Hon. H. Gladstone, M.P., Home Secretary, at City of London Magistrates' Club, December, 1907.—(9) *Tra la Perduta Gente*, by Signor Rosadi, 1907.

Errata.—Article I, p. 346, total convictions, Class II, 103,933; grand total, Classes I and II, 124,223; number of individuals, Class I, 7,400, Class II, 32,600, and both, 40,000; p. 352, line twenty-second, the figures are 32,500, and line thirty-ninth, apprehensions, etc., should be 810,950, or 1 to 40 of population, and convictions 1 to 49, and number of individuals 149,300, or 1 to 220; p. 353, total for breach of peace and drunkenness, 293,260, of vagrancy, 36,298, and of Class II, 711,020; grand total of apprehensions, I and II, 810,950, and of convictions, 660,300, and of number of individuals, 149,300; p. 354, first line, apprehended number, 810,950, and ninth line, paltry offences, 711,020, or 87 *per cent.* of all, or 1 to 46 of population; p. 355, line third, 304,790, line fourth, 1 to 107 and 36,300, line fifth, 1 to 900, and line sixth, 369,935, or 52 *per cent.*

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Some Notes on Status Epilepticus and its Treatment.

By A. BANKS RAFFLE, M.D.(Dunelm), Assistant Medical Officer, Exeter City Asylum.

IN all asylums and places where epileptics are taken care of many cases of this condition must occur annually, and the treatment of it must be of grave consideration in the care of these cases. The figures of Dr. Lord ([1]) show us that in ten years in the Hanwell London County Asylum 26 *per cent.* of the deaths in epilepsy occurred in the "status," and these figures are borne out by the returns of the Ewell Colony for Epileptics. Much has been written on the subject, both by British workers and by our Continental *confrères*, but it is scattered through the literature in isolated monographs, and of late years the interest in the subject seems to have lapsed. The present paper is written with the purpose of inducing someone, more competent than the author, to give us further light on this very interesting condition.

Ætiology.

Age.—This seems to play a very small part in the production of the condition. A reference to the tabulated series will show how very wide is the range in the age-periods.

Sex.—In my cases there has been a remarkable preponderance of attacks in males over those in females—twenty-three cases in males, four in females. As far as I can gather this seems to be the experience of most workers amongst epileptics in this country, but Continental observers, Lorenz ([2]), Bournville ([3]), and others, state that twice as many cases occur in females as in males, while Clark ([4]) takes the middle view.

Causation.—The engorgement of the brain, œdema, flattening of the convolutions, increase in the fluid in the ventricles, perhaps punctate hæmorrhages into the brain substance, are amongst the more common findings *post-mortem.* Some work has also been done on the changes in the nerve-cells found in the condition, but these are apparently only an exaggeration of the chromolytic changes met with in cases of epilepsy dying from other causes.

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The fatty changes in the heart, liver, and renal epithelium are interesting. In forty-nine cases of epilepsy examined *post-mortem* these changes were only found in seven, and all these cases terminated in the status. The remarkable likeness between status epilepticus and eclampsia must strike one; in both we have muscular spasm, in both renal and liver changes, in both cases constipation, and in both we have the same tendency to death from cardiac collapse; there is possibly a close relationship between their respective causations. Death in this condition, as has been just said, takes place from heart failure; this has been made a reason for discarding one treatment after another, the idea being that this or that drug accelerated this termination. It would seem more likely that, as it is apparently the normal ending of a case, drugs have no great influence over it, or at least not so much as has been attributed to them.

Another point of interest that has been raised is the influence of the pyrexia upon the cells of the central nervous system. It has been pointed out by Mott ([6]) that the changes found could not be the result of the elevation of temperature since the cells in the anterior cornua of the cord are not affected; perhaps a more powerful argument is that these changes have been observed in cases where the temperature never rose above 101° F. This is another of the conditions that we must assign to the mysterious region of "toxæmia." The high temperature, due in a great extent to the violent muscular exertions, the albuminuria and kidney changes, the gradual culmination of the symptoms until a point is reached at which the activity of the cortical cells is dulled, the temperature falls sometimes to subnormal, and the patient becomes comatose and dies from heart failure, all seem to point to toxæmia. One thing must be put down as certain, and that is that the cardiac degeneration could not be the result of the muscular exertion, since some of the cases which have had fewest fits show marked change *post-mortem.*

Another interesting point is Pierce Clark's ([6]) statement that the sudden cessation of bromides causes the condition. Now in asylums the cases seem to occur amongst the older epileptic residents and not amongst the new arrivals, and this would at first incline one to the view that—as these older patients are usually untreated—this was a fallacy; and yet on several

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occasions on which the relative efficiency of the different treatments have been tried, cessation of treatment has been followed by a remarkable increase in the number of cases of "status," seeming to lend support to Dr. Clark's statement.

Points of Clinical Interest.

Variation in intensity.—Strümpel drew attention to the occurrence of mild and severe forms of status epilepticus, many writers having confirmed this. These mild attacks seem to occur in those cases which are specially prone to the condition, a mild attack often being followed by one of greater intensity: *e.g.*, A. B— had one slight attack in September, 1905, followed by severe attacks in February, 1906, and June, 1906, respectively.

In two of these slight cases occurring recently, the clinical picture was that of "status," but the duration—until recovery—was less than fifteen minutes; the coma was, as would be expected, short. Both cases were untreated.

Albuminuria has been constant in all the cases I have had an opportunity of examining; its disappearance from the urine coincides with the return of the temperature to normal. Hack Tuke ([7]) records two fatal cases in which it did not occur, and other observers have failed to find it in cases.

Reflexes.—Corneal reflex abolished, also the reflex to light. The other reflexes are not constant, but in most cases—between the seizures—the knee-jerks are exaggerated and Babinski's phenomenon and ankle-clonus are present.

Temperature.—The temperature rises apparently in proportion to the number of fits and the duration of the seizure; this is clearly shown by the fact that in all the cases cut short by the hyoscine treatment the temperature never rose above 103° F. A very interesting point is also the unilateral variation in temperature, which depends on the fact that one side of the body is more convulsed than the other. The respiratory- and pulse-rates coincide fairly regularly with the temperature, as will be seen by the enclosed charts; these show the temperature, pulse, and respiratory rates in twenty cases of status epilepticus. Another point worth noticing is the rise in temperature which occurs on the day following the seizure, in those cases which recover: the three charts appended show this rise.

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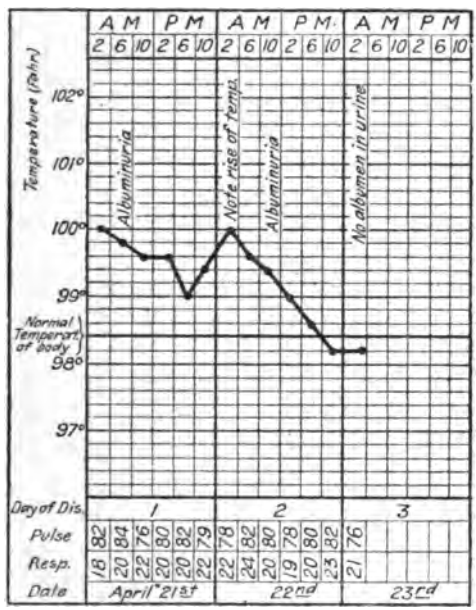
What the cause of it is is impossible to say; possibly it is reactionary.

Relation of number of fits to onset.—A marked feature in the history of a case is the increase—from the normal number of the patient—of the number of fits immediately preceding the attack. In dealing with epileptics one is frequently able to tell when an attack of this condition is pending. Usually there is a number of fits immediately preceding the onset, and in most cases the patient has been having more than his, or her,

CHART I.



average number of fits for some days previously. Reference to the tabulated cases will show how markedly this is the case in these cases, and it holds good also in a large number of other cases. A good illustration of this is:

J. H—, æt. 56, had two severe attacks of status epilepticus, from both of which he recovered under the influence of hyoscine hydro-bromide. During a year's residence in the asylum he had only twenty epileptic seizures, and five and six of these preceded each attack of the condition respectively. He had been an epileptic from childhood.

Recurrence.—The liability of the status epilepticus to recur

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has been pointed out by many writers on the subject, and there seems to be some ground for believing that each attack of the condition leaves the patient more prone to another.

Six of the cases in the tabulated series had more than one attack.

No. of case in series.	No. of attacks.	Result.
14	3	Recovered.
15	3	"
17	3	"
19	2	"
20	2	"
24	2	"

All these attacks were cut short with hyoscine hydro-bromide, and therefore it is impossible to say what is the effect of the recurrent attacks upon the severity of the condition, except to repeat that in some cases the first attack is sometimes a mild one and only the forerunner of a more severe one. The first of these cases (No. 14) presented the following curious clinical history.

F. D—, æt. 72, had thirty-six distinct fits and then passed into the "status." He was treated with hyoscine hydro-bromide and recovered—duration five hours. This was followed by a second attack twelve hours later; this was treated in the same way and he recovered—duration two hours. This in its turn was followed by a second attack twelve hours later, with the same treatment and result—duration one hour. I have not seen a similar case to this reported, nor has another case of the same nature occurred in the series. Some of these cases are always threatening to pass into the "status," and it is amongst these that many of the slighter cases occur.

Diagnosis.—This paper deals solely with the status epilepticus occurring in idiopathic epilepsy. The commonest condition —in asylums—that must be distinguished from it is the pseudo-status of general paralysis of the insane.

The former history of the case, the physical signs, and the milder form the attack takes should be sufficient to distinguish this from idiopathic status. Most of these cases in general paralysis seem to recover, although occasionally they terminate fatally. Two other conditions must be distinguished: these are the serial fits in Jacksonian epilepsy and the status hystericus: in neither of these cases is the temperature raised

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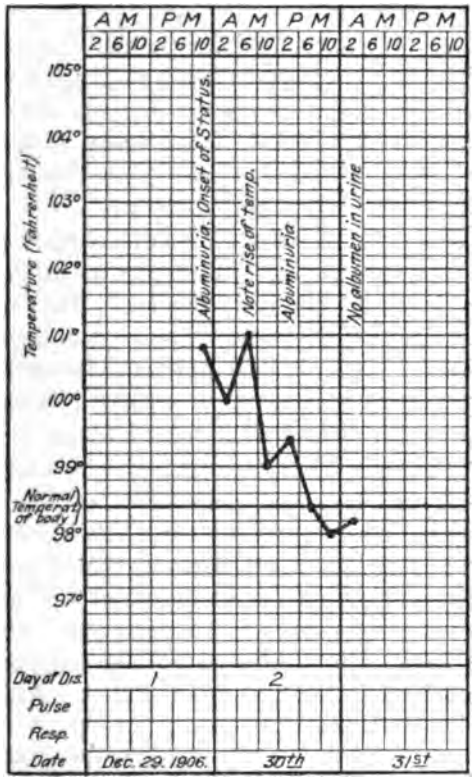
nearly so high as in true status—in fact, in the latter of the two it is not raised at all, nor is there such imminent danger to life. Jacksonian pseudo-status and that of general paralysis of the insane are probably very closely allied.

Prognosis.—The mild cases recover, nearly all the untreated severe cases die. The mortality in my cases—under all forms

CHART 2.



of treatment—was 44 *per cent.* The percentage of deaths given by various authors is:

Burney Yeo (8)	50 *per cent.*
Nothnagel and Buisanger (9) . .	50 „
Lorenz (10) (less than) . . .	45 „
Clarke (11) (out of 52 cases) . .	33⅓ „

Under treatment by hyoscine hydro-bromide out of seventeen cases attacked there were fifteen recoveries and two deaths.

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The earlier the case comes under treatment the more favourable seems to be the chance of recovery.

Treatment.—With regard to the treatment of the condition there is no greater evidence of the difficulty met with in dealwith it than the number of remedies which have been recommended for its cure. Chloral is the drug which seems to have given the best all-round results, either with potassium bromide or without it. On the other hand, chloral has failed utterly in my cases, and this has also been the experience of others, amongst whom may be mentioned Dr. Bevan Lewis ([12]) and Dr. White ([13]). Citrate of ergotin ($\frac{1}{200}$ – $\frac{1}{60}$) hypodermically ([14]), digitalis ([15]), amyl nitrite ([16]), and a host of other drugs have all been useful in cases or groups of cases; all have been—with the exception of chloral—eventually discarded.

The most successful treatment in my cases has been that with hyoscine hydro-bromide. With regard to the usefulness and method of action of this drug there has been a great deal of discussion. As to the points raised, most have been, and will be, dealt with in other places, but an epitome of the action of the drug itself must preface the remarks as to its use.

"The dominant physiological action of hyoscine is upon the cerebral cortex, producing sleep often accompanied by a low delirium. It is also a centric depressant of respiration, and depresses, though somewhat feebly, the whole motor cord. . . Its influence upon the circulation is very slight and it appears to exert no influence on the nerves or muscles" ([17]).

Wood ([18]) also points out that the experiments made with hyoscine must have been made with different alkaloids or combinations of alkaloids. He insists most strongly on the point that hyoscine has little effect upon the heart:

"It has no sedative influence upon the heart; it may be used when the feeble condition of that viscus forbids chloral," and points out that the only depressing effect is upon the respiratory centre. In view of the fact that Mott has conclusively proved ([19]) that the tendency in status epilepticus is death from cardiac failure and not from asphyxia, one of the grave objections to the use of hyoscine—that it tends to increase cardiac failure—is proved a fallacy. Moreover, there are two other points with regard to this: First, our experience with the drug has not shown any indication that it acts as has

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been asserted. Second, I have used the drug in cases where senile changes had already made the heart feeble.

Another point of great importance with regard to this treatment is the nature of the hyoscine used. We have already pointed out Wood's contention that the drug, as used, was not always of the same composition, and this is borne out by the following data: Firstly, after a succession of recoveries extending over some years we had two fatal cases. Both these cases were no more severe at the onset than the ones cured, both were treated immediately on onset, *and both were treated with the same specimen of the drug, which was a new one.* Secondly, Amory Hare ([20]) and others have drawn attention to the fact that people greatly differ in reacting to the drug—is there more idiosyncrasy or variation in efficiency in this phenomenon? Thirdly, hyoscine hydro-bromide in the form of pellets standardised ready for use seems useless: of this I have satisfied myself by investigation of cases in several asylums in which it has been used extensively. The small dose necessary necessitates very careful preparation of our stock solutions.

The drug, as prepared by Merck, has been used in all our cases, and we find now that the same variety of the drug was used by Wood in his experiments.

Treatment by hyoscine hydro-bromide.—The routine treatment is as follows: The solid hyoscine hydro-bromide is procured from the source spoken of and a carefully prepared solution is made (1 in 400, *i.e.*, $\frac{1}{100}$ gr. is contained in 4 minims) and a small amount of a preservative is added. On the onset of the "status" 4 minims are given by hypodermic injection; half an hour is allowed to elapse and if the symptoms show no signs of amelioration another 2 or 4 minims are given; the following morning an enema is given. This treatment has been used upon every occasion during the past six years and has seldom failed.

The following case shows the effect of the treatment:

A. B—, æt. 25, an epileptic from birth. At 9 p.m. patient had two sharp fits followed by a succession of smaller ones, and then passed into the "status." When seen at 9.20 p.m. he was having fits which followed each other at intervals of a few seconds—there was no return to consciousness. The fits started each time in the same sequence—lower lip, temporal muscles, flexors of the forearm, sartorii, adductores longi—then

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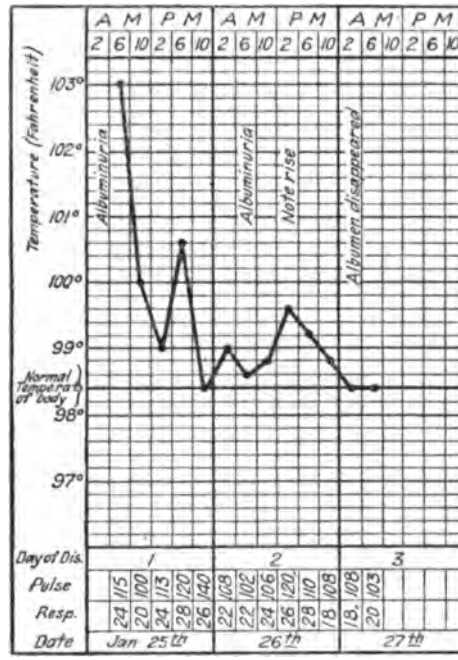
becoming general. The tonic spasm was badly marked in all cases; the temperature was raised and the pulse forcible and frequent. Four minims of the stock solution ($\frac{1}{100}$ gr. of the drug) of hyoscine was given hypodermically with almost immediate effect. Within three minutes the iris was widely dilated and the fits became less frequent, the convulsive movements of the leg being the first to cease. The fits ceased within fifteen minutes, and, after recovering partial consciousness, the patient fell asleep. Half an hour later he was sleeping

CHART 3.



soundly, the pulse was forcible and frequent (140), the skin moist and warm (102° F.), the respiration rather stertorous. He made an excellent recovery.

With regard to failures with this drug there are two apparent causes: (1) The drug, as has been pointed out, is not always procured active; (2) the doses used are too large. The more quickly the drug is administered the smaller is the dose necessary. Appended is a table showing the amount of the drug used in fifteen recovered cases:

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No. of case in series.	Dose given.
No. 14, 1st attack	$\frac{1}{60}$ gr.
2nd ,, ...	$\frac{1}{60}$,,
3rd ,, ...	$\frac{1}{60}$,,
No. 16	$\frac{1}{75}$,,

Charts showing Respiratory, Temperature, and Pulse Maximum in Twenty Cases of Status Epilepticus.

CHART 4.

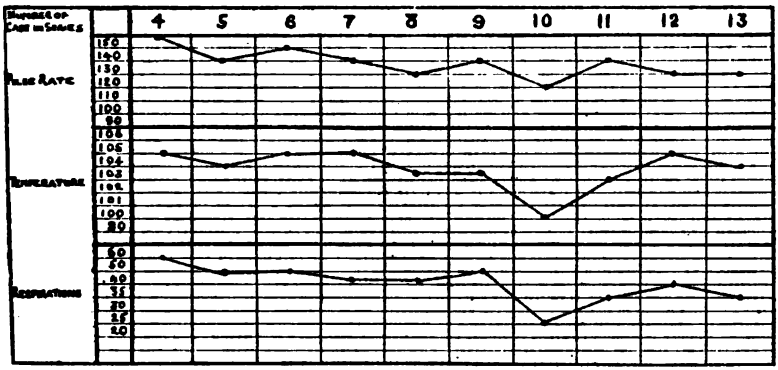
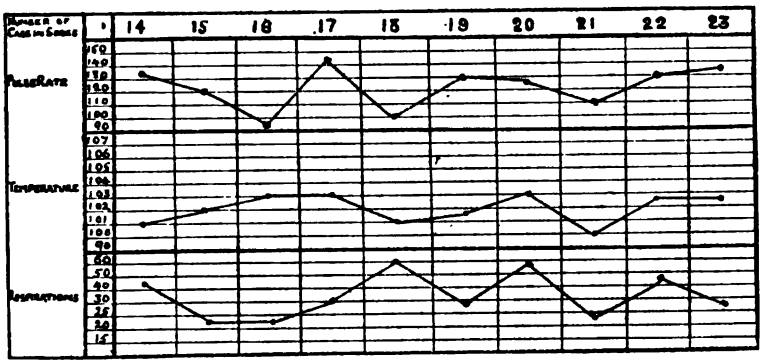


CHART 5.



The first ten cases (Chart 1) were treated in various ways, the last ten (Chart 2) with hyoscine hydro-bromide.

No. 17, 1st attack	$\frac{1}{100}$,,
2nd ,, ...	$\frac{1}{100}$,,
No. 18	$\frac{1}{100}$,,
No. 19, 1st attack	$\frac{1}{100}$,,
2nd ,, ...	$\frac{1}{100}$,,

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Table of Twenty-seven Cases of Status Epilepticus, showing (1) *Age,* (2) *Liability to Recurrence,* (3) *Relation of Onset to Number of Fits,* (4) *Influence of Treatment.*

No. of case in series.	Age.	Sex.	Number of fits immediately before onset.	Attacks.	Duration.	Treatment.	Result.	Remarks.
1	31	M.	One severe fit	1	24 hours	Chloral	Died	—
2	50	M.	38 fits	1	—	Potassium bromide and chloral	"	—
3	26	M.	Bruit of fits	1	—	No treatment	"	—
4	17	M.	7 to 8 fits	1	—	Chloral	Recovered	—
5	34	F.	Bruit of fits	1	2 days	Chloral gr. xxx	Died	—
6	45	F.	No record	1	7 hours	No treatment	"	—
7	26	M.	"	1	24 hours	Digitalis	Recovered	—
8	42	M.	Bruit of fits	1	72 hours	Chloral	Died	—
9	17	M.	15 fits	1	48 hours	"	"	—
10	25	M.	35 fits	1	48 hours	"	"	—
11	35	M.	No record	1	36 hours	Opium	"	—
12	17	M.	Bruit of fits	1	Some days	Digitalis	"	—
13	69	M.	14 fits	1	1 hour	Amyl nitrite	Recovered	—
14	72	M.	Bruit of fits (each time)	3	(1) 5 hours, (2) 2 hours, (3) 1 hour	(1) Hyoscine hydro-bromide $\frac{1}{100}$ gr. (2) " " " (3) " " "	"	This case is the peculiar one noted under the head of "recurrence."
15	25	M.	5 fits	3	½ hour	" " $\frac{1}{75}$ gr.	"	—
16	20	M.	Bruit of fits	1	½ hour	" " "	"	—
17	13	M.	"	3	—	" " $\frac{1}{100}$ gr.	Recovered and still living	—
18	74	M.	10 fits	1	—	" " "	Recovered and died a year later from phthisis	—
19	25	M.	8 fits and 17 fits	2	(1) ½ hour (2) 1 hour	" " " " " "	Recovered	—
20	28	M.	Bruit of fits	2	1 hour	" " $\frac{1}{50}$ gr.	"	—
21	35	M.	7 fits	1	—	" " $\frac{1}{200}$ gr.	"	—
22	26	M.	No record	1	½ hour	" " $\frac{1}{100}$ gr.	"	—
23	71	M.	9 fits	1	—	" " "	"	—
24	15	F.	Bruit of fits	2	—	" " "	"	—
25	28	M.	No record	1	½ hour	" " $\frac{1}{75}$ gr.	"	—
26	45	F.	3 fits	1	14 hours	" " $\frac{1}{50}$ gr.	Died	The two fatal cases discussed under the head of the variation in efficiency of the drugs
27	53	M.	10 to 12 fits	1	7½ hours	" " "	"	

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No. of case in series.	Dose given.
No. 20	$\frac{1}{50}$ "
No. 21	$\frac{1}{200}$ "
No. 22	$\frac{1}{100}$ "
No. 23	$\frac{1}{100}$ "
No. 24	$\frac{1}{100}$ "
No. 25	$\frac{1}{75}$ "

In conclusion, given a pure and active drug, speedy application, and a careful regulation of the dose, there seems to be no reason why we should not appreciably diminish the mortality in this condition. Lastly, I must express my indebtedness to Dr. Rutherford, Medical Superintendent of the Exeter City Asylum, both for permission to report these cases and also for much kindly advice and help given in its preparation.

(1) *Archives of Neurology.*—(2) *Recheras sur l'épilepsie.*—(3) Inaugural address at Kiel.—(4) Spratling's *Epilepsy.*—(5) *Archives of Neurology.*—(6) *Epilepsy*, Spratling.—(7) *Dictionary of Psychological Medicine.*—(8) *Manual of Medical Treatment and Therapeutics.*—(9) Eülemberg's *Realencyclopädie.*—(10) Inaugural address at Kiel.—(11) Spratling's *Epilepsy.*—(12) *Psychological Medicine*, Lewis.—(13) *Journal of Mental Science*, White.—(14) *Ibid.*, White.—(15) *Ibid.*, Greeve.—(16) *West Riding Asylum Reports*, Browne.—(17) *Therapeutics: its Principles and Practice*, H. C. Wood (12th edition).—(18) *Therapeutic Gazette*, Wood.—(19) *Archives of Neurology*, Mott.—(20) *Text-book of Practical Therapeutics*, Hare.

On the Treatment of Cases of Acute Insanity by Rest in Bed in the Open Air. By J. WIGLESWORTH, M.D., F.R.C.P.

HAVING been engaged during the past three years in treating cases of active insanity by rest in bed in the open air, I am able to add my testimony to that of Dr. Easterbrook, as published in the last number of the *Journal of Mental Science*, as to the value of this method of treatment in suitable cases.

In the summer of 1904 I first tried the experiment of treating cases of acute insanity in this way, and being satisfied with the results obtained I extended the system, and during the past two years all cases of recent insanity admitted into Rainhill Asylum, which were in any way suitable, have been given a trial of this method of treatment.

This institution being one of the older asylums is not structurally as well adapted as could be desired for treating

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patients on these lines, but wherever possible glass-roofed verandahs have been erected for patients to lie out under, and elsewhere canvas-covered tents with wooden frameworks have been made to serve this purpose.

The patients are taken outside early in the morning, generally about 8.30 a.m., and are kept out, lying down in the beds, until about 6 p.m., having their meals outside. Unfortunately, this treatment cannot be carried out in its entirety all the year round in this climate, but has to be partially suspended during the winter months. It is important that the patients be warmly clad, and even then special care has to be taken in the case of patients suffering from great physical prostration, who are best kept indoors for a time unless the weather is quite warm.

I may say that I have never regarded with favour the treatment of recent insanity by prolonged rest in bed indoors, which is such a feature of the German asylums; at the same time, the fact has more and more impressed itself on me that many of these cases are capable of standing very little outdoor exercise without undue fatigue. The truth seems to be that mental and motor energy are inextricably mixed up in the brain, and the latter cannot be discharged in excess, however slight, without depressing the former. Lying down in the open air provides the required rest, at the same time that the general health is improved and natural sleep encouraged by that best of all soporifics—fresh air; indeed, this treatment tends to reduce to a minimum the use of hypnotics and sedatives, which are so baneful to the nervous system.

The treatment is not applicable to all cases of insanity, but the majority is capable of deriving some benefit from it. Cases of active mania and melancholia and stuporose cases appear to benefit most, but all cases showing signs of nerve exhaustion (which is so frequent in our patients) should be given a trial of it. It is not, of course, claimed for this method of treatment that it is going to cure all cases of recent insanity, even if its use were restricted to those cases which appear to be most suitable for it; but my experience of the past three years leads me to the conclusion that certain patients get well under this treatment who would not otherwise have recovered, and that the convalescence of many others is appreciably hastened. Even if no more could be said than this, the treatment would more than repay the little extra trouble involved in carrying it out.

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Whilst on this subject, I may add that I have been in the habit during the past five years of keeping all the patients (except those who were too ill and those engaged in necessary work) out in the open air all day, from 9 a.m. until 6 p.m., during the summer months, letting those patients who formerly had their meals in the wards have them outside in the airing courts. The improvement in the general health of the inmates thereby effected has been quite noticeable, and a concomitant appreciable reduction in the death-rate has been effected.

Clinical Notes and Cases.

A Case of Narcolepsy. By R. DODS BROWN, M.D., M.R.C.P.Edin., D.P.H., Assistant Physician, Royal Asylum, Edinburgh.

NARCOLEPSY is so rare that I deem the following case worthy of record. It is one occurring in a young man suffering from hallucinatory and delusional insanity, who was admitted into the Royal Edinburgh Asylum, in April, 1902, with the following history.

A. B—, æt. 19, of a frank, cheerful disposition and well educated, of good muscular development and athletic habits.

In April, 1900, he became affected by periods of "somnolence" during the day, so marked as to give rise to much anxiety on the part of his friends. He could be roused from the somnolent condition, but was fretful when this was done. It occurred at any time of the day, especially after a good meal. At other times he would be listless and lethargic without passing actually into sleep. He slept badly and had very vivid distressing dreams, which troubled him greatly. He was easily fatigued, and sometimes seemed unable to make much mental effort. His digestive system was often disordered, but when this was attended to the "sleep attacks" were not so pronounced. Towards the end of 1900 the attacks of narcolepsy became more marked, and on one occasion while walking along a busy thoroughfare he passed into a state of somnolence. He had a vacant expression, and when questioned said he "felt very sleepy, but would be all right shortly." He dropped a glove, and though conscious of the fact, he felt he could not pick it up. This condition lasted about fifteen minutes.

There never seemed to be any sudden loss of consciousness. He felt the "sleep attack" coming on gradually, could fight against it for a while, but usually it was overpowering. The only suggestion of uncon-

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sciousness was once while cycling quietly along a road he, suddenly and to his horror, found himself on the point of going over the edge of the road into a loch. Again, while golfing, he would stop when about to hit the ball and be quite unable to make his stroke. He was conscious of the whole thing, but felt a muscular relaxation which he was unable to fight against. This condition was sometimes brought on when he was crossed or irritated. Frequently also he passed into a drowsy state while speaking, and was unable to continue his conversation.

During the six months immediately previous to admission the attacks of somnolence abated somewhat, though within the last two months hallucinations had set in and became very pronounced.

State on admission.—He was a well-developed, strong, muscular youth, 5 ft. 9 in. in height, weighed 14 st. 4 lb., and tended to be fat. The physical examination of all the systems revealed nothing abnormal, except that the bowels tended to be constipated. The urine contained no abnormal constituents. On examination, the eyes showed no pathological condition. Mentally he was somewhat slow and confused. He was good-natured, but puzzled like a child at the strangeness of his malady. His memory was quite good. He suffered from marked hallucinations, and thought he heard his schoolfellows' voices transmitted by telephones and wireless telegraphy.

At first during his residence in the asylum he suffered greatly from hallucinations of sight and hearing, and narcolepsy was a very marked feature of the case. He would fall into the narcoleptic condition at any time of the day, even though placed in the most awkward and uncomfortable position. If he happened to be walking in the grounds he might begin to feel the attack coming on, and although he was only a few yards from the door of the villa he would collapse on the ground, completely overcome. It was quite common for him to go to sleep while taking his food, and very often when playing billiards he would suddenly stop, saying he "felt very sleepy," and leaning over the billiard table he would immediately pass into the somnolent state. He was unable to resist the attacks of drowsiness, although semi-conscious throughout. Sometimes he could be easily roused only to relapse into the same condition. There might be only one or two such attacks, or as many as a hundred in one day.

As far as possible he had regular exercise in the grounds, and after a few weeks there was distinct improvement both as regards the hallucinations and the narcolepsy. He conversed more intelligently and freely.

In August, 1902, *i.e.*, four months after admission, the hallucinations became more vivid and he now began to labour under delusions. These were so real to the patient that he began to act upon them. He thought that the voices were those of the doctors, the staff, and patients, and as a result he tended to become violent and homicidal towards these persons.

This condition became so aggravated that it was decided in October, 1902, to operate in order to discover any source of irritation on the surface of the brain.

A trephine opening was made over the word-hearing centre and enlarged to 1½ in. in diameter. The dura mater, which was found

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markedly thickened and slightly adherent to the calvarium, was incised carefully and the pia arachnoid exposed, but nothing abnormal was found. The dura was stitched up and the scalp flap replaced.

The patient recovered from the operation, but the delusions and hallucinations persisted, and he continued to exhibit great violence to those near him.

In January, 1903, he had so far improved that he was placed in a convalescent ward. The hallucinations and delusions were less marked and the narcolepsy was not so pronounced. Unfortunately this condition of betterness did not continue. He again became irritable, delusional, and impulsive, while the narcolepsy was more marked.

During the year 1904 delusions of persecution were very marked, as were also hallucinations, and he made several homicidal attacks on attendants and others. The narcoleptic condition, however, was greatly moderated. His memory still remained unimpaired, and when his attention was not absorbed with hallucinations and delusions he conversed readily and intelligently. At that time he began to complain of vague pains in the head.

Since 1904 he has remained in much the same condition as regards delusions and hallucinations. The narcolepsy still exists, but not to anything like the same degree as formerly. Occasionally, throughout the day he passes into a state of somnolence, from which he is easily roused, and even when walking out in the grounds it may come on. The patient begins to feel sleepy, and he at once leans against a paling or wall for a minute or two until the "sleep attack" passes off. Sometimes when he is engaged reading or writing he feels it coming, but is unable to withstand it. He is aware of his surroundings all the time.

Treatment.—During his residence in the asylum he has had easily digested food, exercise in the open air, and general tonic treatment. Bromides had no effect, and intestinal antiseptics produced no appreciable benefit.

Whether the improvement can be assigned to the operation or not I think it is impossible to say.

Literature.

In 1880 M. Gélineau described the rare condition of narcolepsy. He characterised it as an irresistible desire to sleep, which was sudden in its onset, lasting for a short time, and recurring at varying intervals. It may last only a few minutes or it may go on for an hour. He limited the term to those cases where there is only a partial disturbance of consciousness usually of short duration. The patient feels he is virtually asleep: he is but semi-conscious. There is an inhibition of thought and volition sometimes, but not always of movement. If the person is talking he may become incoherent and then stop talking altogether. Again, for example, if he is writing or

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taking his food he drops the pen or spoon. He can see and hear, but not distinctly. Gélineau thought the disorder depended on a special neurosis.

Later writers have not confined the term "narcolepsy" to the condition originally described. Pathological somnolence has also been included, but this is of comparatively common occurrence in cases of obesity and diabetes. It also may occur in severe anæmia, in heart and lung diseases, in organic brain disease, in uræmia and cholæmia. Neurasthenia, hysteria, and epilepsy also are important in giving rise to morbid sleep. The person suffering from this condition is wakened with greater difficulty than in narcolepsy and the sleep is of longer duration, often, in some cases, lasting for a whole day.

Ribakoff distinguishes pseudo-narcoleptic crises from true narcolepsy by the fact that the former come on suddenly and are followed by a feeling of fatigue and by pains, a condition identical with that seen after a true epileptic attack. He differentiates between a hysterical sleep and narcolepsy by the fact that in the former there are to be found other signs of hysteria, *e.g.*, anæsthesia and paræsthesia, and that there are to be seen tremors and contractions of eyelids which are not to be observed in narcolepsy.

Lamacq says that in epilepsy sleep not only may follow the convulsion, but may also precede it and in rare cases take the place of it. The patient in these cases is not wakened by the strongest stimuli, and if the lids are opened the eyes show irregular involuntary movements. When consciousness is regained the patient has no recollection of what has happened, and there is considerable confusion. He also states that in hysterical pseudo-narcolepsy there may be incomplete closure of the eyelids, which are more or less tremulous. Cataleptic attitudes of limbs or body may be found, while anæsthesia or paræsthesia may be elicited. He attributes the condition to a functional derangement of some of the organs. Eickhorst speaks of narcolepsy as an epileptic manifestation and Oppenheim looks on it as a symptom of hysteria or epilepsy.

M'Carthy and Ribakoff both consider it a phenomenon of degeneration, while M'Carthy has found nothing to suggest that it is a distinct neurosis or disease.

There are many who declare that a toxine is the cause of the affection, and in many cases there are gastric or intestinal

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disorders. Among the holders of this theory are Ballet, Blodgett, Furet, and Caton.

Blodgett points out that in many cases of narcolepsy sugar makes its appearance in the urine of the patient often long after the disease is established, while Furet thinks that narcolepsy and epilepsy are often associated symptoms of one intoxication.

Stern has found from careful examination of patients that the output of chlorides is excessive, and he says that there exists in the blood a relatively low osmotic pressure. "Because of this there is diminished nutrition or stimulation of the nerve substance, and therefore interference with its electrical conductivity. The sudden seizures of somnolence are explainable by the lowered nerve impulses conducted through the cells of the central system." He asserts that "sleep seizures seem to be due to diminished ionization of the chlorides in the blood."

It is found that many cases suffer from pain in the head or in the eyes, or from a feeling of weight or compression, though the general bodily and mental health remain usually good.

It has been pointed out that in many cases there is a distinct heredity of nervous or mental trouble. Gastric and intestinal disorders seem to occur in many of the patients. Lamacq reports the case of a girl who had no symptoms of indigestion, but who had a little abdominal distension, and when this was removed by means of laxatives the narcolepsy disappeared.

Foot knew of a lady whose convalescence dated from an attack of epistaxis, and because one of his patients complained of a feeling of weight in the head, and because he had occasional epistaxis, he applied leeches behind the ears. Distinct temporary improvement followed this course of treatment.

The unique interest of this case lies in the fact that one can find no record of narcolepsy and insanity occurring in the same patient. It is easy to understand that the delusional and impulsive conditions had their origin in hallucinations, but the connection between the hallucinations and the narcolepsy would be much more difficult to trace.

As we know nothing of the cause and pathology of this rare disease, so the treatment is uncertain and unsatisfactory. Sedatives give no benefit, and excitants produce only bad results. Light diet and attention to the functions of the stomach and bowels seem in many cases to alleviate the condition.

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Three Cases of Juvenile General Paralysis. By COLIN F. F. MCDOWALL, M.B., M.R.C.S., Assistant Medical Officer, City Asylum, Newcastle-upon-Tyne.

In the following brief notes nothing is attempted beyond placing on record three undoubted examples of this interesting disease, and thus adding to an ever increasing list of cases.

CASE 1.—F. S—, æt. 20, general servant.

History.—Father and mother drunkards; in poor circumstances. Patient fourth child of family of five; elder children reported healthy, but younger sister mentally deficient. Patient was undoubtedly syphilitic in early childhood; had snuffles. Was always delicate; of average intelligence at school.

On admission, September 29th, 1905, she measured 4 ft. 9 in. Bridge of nose slightly depressed; marked cicatrices running at right angles to circumference of mouth. Teeth irregular but not characteristically syphilitic. Mammæ rudimentary.

The mental condition on admission was one of slight melancholia patient emotional, lachrymose; answers to questions irrelevant. Speech distinctly affected; some words stopped short and some run together; fibrillar twitching of facial muscles; tongue tremulous. Knee-jerks very active; plantar reflexes normal and equal. Pupils equal and react normally to light and accommodation.

Patient speedily recovered from depression and became irritable and peevish; did ward work; clean and tidy in her habits. After six months she became less observant, and was listless, apathetic, and idle. Gait was now affected; patient walked in an ataxic, swaying manner; legs dragged after her and fell with feet extended and wide apart. Mental condition one of increasing dementia; ultimately unable to answer the simplest questions, and during the last three months of life

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she was too demented and paralysed to speak at all. Fourteen days before death, and seventeen months after admission, she became convulsed; remained unconscious; had thirty-six seizures in all. Condition after first convulsion: pupils dilated, equal, no reaction to light. Patellar reflexes completely absent; well-marked bilateral Babinski sign. Shortly before death the legs became œdematous, and there were indications of gangrene of lungs.

Post-mortem examination.—Body emaciated. Hair poorly developed over pubis and in axillæ. Skull-cap adherent to dura mater, which is dense and thickened; many Pacchionian bodies, especially along the sides of the longitudinal fissure. Pia mater opaque; excess of subarachnoid fluid. On stripping off the pia the surface of the convolutions appeared markedly eroded, especially over parietal and temporal lobes. Lateral ventricles much dilated with clear fluid; no granulation of lining membrane, but abundant granulations in fourth ventricle. Convolutions atrophied; the grey matter markedly diminished. Cerebral substance generally soft. Basal arteries sclerosed. Liver fatty; capsule thickened; old cicatrix on under surface of left lobe. Deep notch in anterior border of right lobe. Kidneys show cicatrices on surface. Heart normal. Lungs contain scattered tubercular foci with large gangrenous abscess; cavity in right lower lobe. Uterus rudimentary. Encephalon = 1030 grms. Right hemisphere (undissected) 400 grms.; left (dissected) 410 grms. Cerebellum = 110 grms. Pons = 15 grms.

Case 2.—E. M—, æt. 15, of no occupation; admitted October 27th, 1899, from a home for waifs. Her mother reported to be a prostitute. No further history obtainable.

On admission.—She has the appearance of a child of ten; bridge of nose depressed, nostrils wide, head large, forehead prominent. Typical cicatrices at angles of mouth. Teeth irregular, not typically syphilitic. Palate highly arched. Speech and gait normal. Patellar reflexes increased; active plantar response. Pupils dilated, unequal; right larger than left; reaction to light and accommodation normal. Mental state one of extreme hilarity, mild excitement and restlessness with continuous laughter and incoherent chattering. Ten days after admission she lost power of legs; quite unable to walk; no seizure noticed. The reflexes remain unaltered, but speech distinctly affected; she cannot pronounce "artillery" and similar test words; distinct hesitancy and slurring. Tongue tremulous, marked twitching in lips and facial muscles. After a short stage of what resembled stupor, she again became happy and intelligent; remained in that condition for the next five years. During this period she once had retention of urine. In February, 1900, she had an acute attack of broncho-pneumonia. Had an attack of interstitial keratitis, which left permanent adhesions to lens in each eye. Menstruated regularly from admission till three months before death; copious losses. Body-weight increased, but stature remained unchanged. During last two years of life she gradually became more and more demented; not so hilarious, but quiet, reserved, demented, and worked but little and in a listless manner. Three months before death she again lost power in legs. Speech, which had gradually become

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typical of ordinary general paralysis, now entirely lost, and patient quite demented, understanding very little of what was said to her. Patellar reflex increased. Marked bilateral Babinski phenomenon; Argyll-Robertson pupils; no ankle clonus. Required catheterisation. Legs became œdematous. Occasionally vomited bilious matter. Developed a bulla over sacrum which disappeared before death.

Post-mortem examination.—Body well nourished. Hair abundant over pubes, but scanty in axillæ. Skull cap adherent to dura mater, which is thickened and dense. Pia opaque. Marked excess of sub-arachnoid fluid, also of cerebro-spinal fluid. Erosions of middle temporal and middle frontal convolutions on each side. Lateral ventricles enormously dilated. Abundant fine granulations on floor of ventricles. Cerebellum atrophied. Floor of fourth ventricle covered by coarse granulations. Degenerated gummatous mass attached to pia in Sylvian fissure. Arteries, especially basal, thickened. Liver shows cicatrix on under surface of right lobe; capsule thickened throughout. Uterus small, as are all the abdominal organs. Encephalon = 1075 grms.; right hemisphere = 430 grms.; left = 400 grms.; cerebellum = 56 grms.; pons = 14 grms.

CASE 3.—T. M—, æt. 14, of no occupation. Third child of parents in good circumstances. Other members of family healthy. A reliable history difficult to obtain. Patient stated to have been a bright, intelligent child until about twelve months before admission. She then became irritable, peevish, erotic.

On admission, November 4th, 1905, she was passionate, declamatory; habits faulty. Height 5 ft. 4 in. Weight 4 st. 11 lb. Bridge of nose depressed. Teeth very irregular. Gait normal. Speech hesitating and indistinct, complete words being occasionally dropped out. Plantar and patellar reflexes normal. Pupil reflex not noted. Patient continued noisy and irritable for two months when progressive dementia developed. Bodily condition degenerated. Gait ataxic. Body bent forward, head extended. Menstruation regular; the loss very small. About middle of November (?) she began to have attacks of vomiting; bilious and liquid material ejected without effort. Makes inco-ordinated attempts to scratch when interfered with. Cannot articulate at all; points at articles and vainly attempts the pronunciation of their names. October 29th, 1906. General condition very feeble; extremities cold, livid. Pupils unequal; right dilated. Active patellar response. Marked bilateral Babinski's sign with flexion at knee-joint. Urine retained. On November 3rd patient died after twenty-four hours of unconsciousness, but no kind of "seizure" was observed.

Post-mortem examination.—Body well nourished. Legs œdematous. Hair on pubis and in axillæ poorly developed. Skull cap adherent to dura. Pia thickened, opaque, and adherent to tips of convolutions except throughout the posterior portion of occipital lobe on each side. Lateral ventricles dilated. Small circular sclerotic patch in outer wall of left ventricle. No granulations on lining membrane of lateral ventricles. Grey matter diminished, soft and dark. White matter pultaceous. Cerebellum normal. Floor of fourth ventricle covered by exuberant granulations—a typical example of "cat's tongue." Excess of cerebro-

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spinal fluid. Encephalon = 970 grms.; right hemisphere = 395 grms.; left = 370 grms. Cerebellum = 150 grms. Pons = 10 grms. Other organs showed no pathological change.

Remarks.—When Clouston, Mott and others recorded their cases of adolescent general paralysis, they drew attention to all the points that receive attention from us as practical physicians. Anyone acquainted with the literature of the subject must at once perceive how the cases now detailed emphasise the conclusions arrived at by former observers. In relation to the age at which the disease usually appears, there is one point which has attracted some attention, but about which nothing definite has been decided; I refer to the age limit beyond which inherited syphilis does not appear to be able to produce general paralysis. Yet this is really an important question, which when solved may account for those cases of the disease in which a history of primary syphilitic infection cannot be obtained.

In two of the cases the stature was markedly under the average; the patients appeared more like children, and this juvenile appearance was retained to the end; more especially was this true as regards the facial expression. Though some of the sexual characteristics were poorly developed, this was not so in Case 2, who was a developed woman, though in miniature, and in her the monthly periods were quite normal.

As already stated it is not my intention to use these three cases as a text and to proceed to discourse on all the points of interest arising from a consideration of general paralysis. Still a word may be said as to the diagnosis of these cases. Until Clouston recognised their true character they were considered to be instances of dementia, but now asylum physicians have no difficulty in diagnosing them. It is otherwise with the ordinary practitioner. It is only rarely that he arrives at a correct diagnosis. Sometimes the mistakes are quite remarkable, but only one need be referred to—that of a girl, æt. 18, in a refuge. Although the history of the case was defective, it would surely have been possible to avoid the error of considering her a deaf and dumb idiot, when she really was a case of far advanced general paralysis.

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Menstruation in the Insane. By T. C. MACKENZIE, M.B., F.R.C.P.Ed., Senior Assistant Physician, Royal Asylum, Aberdeen.

THE following notes are the outcome of observations made during a recent period of six months upon ninety-two patients in the Royal Aberdeen Asylum.

Age.

15–20 years.	21–25 years.	26–30 years.	31–35 years.	36–40 years.	41–45 years.	46–50 years.	51–55 years.
2	15	14	19	15	18	7	2

Disease on Admission.

Mania	49
Melancholia	32
Secondary dementia	4
Dementia præcox	3
Congenital imbecility	2
General paralysis	1
Nervous depression (voluntary)	1
Total	92

Of the 49 cases of mania 20 showed no change during the menstrual period, 22 showed increased excitement with impulsiveness and general exaggeration of their maniacal symptoms, 5 showed excitement during some periods and no change during others, and 2 showed depression.

Of the 32 cases of melancholia 19 showed no change, 7 showed increased agitation or depression, and 6 showed depression during some periods and no change during others.

In 2 cases of mania, 1 case of melancholia, and 1 case of nervous depression it was noted that there was an increase of excitement specially before the commencement of the menstrual period.

In 3 cases there was a marked degree of sexual excitement during the period.

Frequency of Menstruation and Duration of Menstrual Periods.

For 29 cases of mania admitted within the last two years, the average number of menstrual periods to each patient during the

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six months of observation was 3·9, and the average duration of the periods was 5·5 days.

Similarly for 17 cases of melancholia the average number of periods was 2·9, and their average duration 5·2 days.

Of 3 cases of dementia præcox, 2 were completely amenorrhœic during the whole period of six months, and the third case menstruated twice, each menstrual period lasting 5 days.

In 1 case of advanced general paralysis there was complete amenorrhœa.

In 2 cases of congenital imbecility the average number of menstrual periods was 6, and the average duration 5·4 days.

Relative Frequency of Menstruation in Recent and Chronic Cases.

For 21 patients between the ages of twenty-five and forty who have been resident in the asylum for two years and less, the average number of menstrual periods to each patient was 2·7, and the average duration of the period was 4·3 days.

For 18 patients between the ages of twenty-five and forty, who have been resident for five years and upwards, the average number of periods was 4·3, and the average duration 5 days.

Complete Amenorrhœa occurred in 11 of the 92 cases, as Illustrated in the following Table.

Disease on admission.	Age.	Present state.	Remarks.
Mania	42	Acutely melancholic with hallucinations	—
"	25	Confused, with occasional acute excitement	? Tubercular enteritis.
"	47	Secondary dementia	—
"	17	Discharged recovered after 5 months' residence	Suffered from chorea when admitted.
"	28	Discharged recovered after 9 months' residence	Subsequently died from phthisis pulmonalis.
"	21	Discharged recovered after 8 months' residence	Lactational insanity.
Melancholia	32	Suicidal and impulsive	Tubercular.
"	32	Depressed, irritable, suspicious	—
Dementia præcox	22	Restless, confused, faulty in habits	—
Dementia præcox	28	Lucid remission after katatonic resistiveness	Sister died from phthisis pulmonalis.
General paralysis	34	Died 11 months after admission	—

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Acute Mania following General Anæsthesia. By GUY ROWLAND EAST, M.B., Assistant Medical Officer, Northumberland County Asylum.

R. C—, æt. 21, was admitted to the Northumberland County Asylum on August 28th, 1907, suffering from acute mania.

History.—Up till three days before his admission to this institution, R. C— had never presented any indication of mental instability, either in altered habits, change of personality, or sleeplessness. He had always been a steady, hardworking man, a quarryman, clean living, and in no way addicted to drink or other unhealthy appetites, nor had he shown undue emotion in religious matters.

On August 24th, 1907, having arranged with a dentist for the extraction of thirteen carious teeth, Dr. Gover, of Gosforth, administered a general anæsthetic (ether). The patient took the anæsthetic well, but the operation was somewhat protracted, the decayed stumps being difficult of removal. He was under ether forty minutes. Immediately on regaining consciousness, R. C— sat up and pointed across the room saying that he saw God, dressed in a frock coat and top hat, standing near the door.

He was afterwards taken home and put to bed, where he slept quietly till midnight. On waking he at once got out of bed and began to dress himself. His father, hearing the noise, came into the bedroom to find R. C— with an open razor in his hand, which the father succeeded in wresting from him after a struggle. Shortly after this incident R. C— rushed from the house minus coat and stockings, nothing more being seen of him till 5 o'clock in the morning of August 25th, 1907, when he rang Dr. Gover's night bell and asked for an interview.

To quote Dr. Gover's own words:

"At five o'clock in the morning patient came to my house without his coat and stockings and said that his father was going to cut his (R. C—'s) throat. He rambled continually about God and said that he had become converted. He also asked me to pray for him. He afterwards flung himself on his knees and prayed in the street."

From this time onwards he became progressively more excited, being altogether unmanageable, talking incoherent nonsense, extravagant in his movements, flinging off his clothes, at times being violent and dangerous or abusive and threatening in his language.

It was in this mental condition that he was admitted to this asylum.

Family history.—His maternal grandmother was subject to periodical attacks of depression for many years, but was never certified as insane. His mother died in an asylum.

August 29th, 1907.—*Physical state:* A fairly nourished man. Temperature 98° F., pulse 84, respirations 16. Gums swollen and bleeding. Tongue furred. Breath foul. Appetite poor.

Mental state.—A nervous and fearful man who imagines he has daily communion with God; that God has ordered him to be discharged from the asylum; that the Devil poured noxious gases through a ventilator

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and tried to stifle him, but by God's intervention he stopped up the inlet. He is agitated, restless, gesticulates wildly, and has a frightened expression in his eyes. He became violent last night and was removed to a padded room. He refused his breakfast as he said it was poisoned.

For the following three days he continued in this excited mental state, and as he persistently refused to take any nourishment he was forcibly fed during this period, being confined to bed in a single room day and night, but was not secluded.

Temperature 99·2° F., pulse 84, respirations 16.

September 4th, 1907.—To-day he is quieter and rests contentedly in bed after a somewhat restless night. Later in the day he was severely purged and towards night his temperature rose to 102° F., respirations 20, pulse 96. He was put on milk diet and given astringent mixtures. Slept moderately at night.

The diarrhœa ceased during the next three days, in which time the patient became rational. He had no recollection of anything that had happened since his visit to the dentist on August 24th, 1907.

His ultimate recovery was uninterrupted and uneventful.

The interest in this case lies in the fact that a young man, æt. 21, previously exhibiting no signs of mental instability, but with hereditary taint, undergoes a somewhat trivial operation, under ether, which results in an attack of acute mania. His recovery was preceded by a febrile attack, associated with severe diarrhœa.

Occasional Notes.

The Treatment of Incipient Insanity.

Dr. Clouston is indefatigable. He once more appeals to the charitable public in the columns of the *Scotsman*, for the establishment of wards in the Edinburgh Royal Infirmary for the treatment of incipient insanity. The editor of the *Scotsman* lends his powerful aid to the proposal, and various letters have followed on this inception. Six years ago the scheme was carefully considered and definite proposals were made, but financial difficulties compelled postponement. The unanimity of the medical profession and the apparent assent of the philanthropic public augured favourably for success; and it is hoped that the public interest is again awakened by the representations which

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have been made more recently. It would appear that the success of the special department of the Albany Hospital in the State of New York and the special wards established in Glasgow has been undoubted. The former is in contact with a general hospital and has all the advantages of such a connection, but the latter is specialised and separated from the general hospitals of the west. A suggestion has been made that Saughton Hall might be used for the purpose indicated, but we would strongly deprecate any arrangement of that kind. The whole intention is to avoid segregation and the very appearance of an asylum, to bring the early treatment of mental disorders into living contact with the medical work of a great hospital. It is not proposed to create an asylum within the Edinburgh Royal Infirmary, but to provide open wards for the early treatment of the insane, under the care of a skilled physician who will enjoy the active co-operation of the medical and surgical staff as may be found necessary in the circumstances of each particular case.

We trust that this appeal will meet with a generous support and that Edinburgh will lead the way. We believe that success will follow upon a concerted and active enterprise carried out on the lines which Dr. Clouston and his colleagues have indicated.

The Ministry of National Health.

Health is the most important asset of a nation or an individual, without which all other possessions are comparatively valueless, and it is astonishing that this fundamental truism has not been recognised by a people priding itself on its common sense and practicality.

The absence of any important department of government, dealing with this vital national asset, is sufficient refutation of any claim to the possession of such qualities by the British.

The need for a Health Department has been demonstrated in the fullest possible manner by the Reports of Royal Commissions in the last few years. These, however, have only emphasised the urgency of the want that had long been recognised by the medical profession and a considerable proportion of that very small section—the thinking public.

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The demand for the formation of a Health Department of the Government, with a responsible minister to represent it, is growing both in force and urgency, and has been eloquently voiced at many recent medical meetings of importance, as well as in the discussion opened by Dr. Clouston before the Medico-Psychological Association.

The jumble of conflicting authorities dealing with health matters generally, chaotic as it seems, is orderly when compared with that which obtains in regard to lunacy. The discussion alluded to brought out the fact that no fewer than seven different authorities have a share in the mismanagement of matters concerning mental diseases, the crowning absurdity of the muddle being the investment of paramount power in the treatment of the insane, not in a medical, but in a legal authority, the Lord Chancellor.

This legal luminary, for whom in his legal sphere every Englishman entertains a very proper respect, in the aspect of physician in chief to one hundred and twenty thousand mentally sick persons, can only be regarded with derision. This potentate exercises other functions, equally unconnected with the law. The sense of the ludicrous excited by this combination of functions is forcibly reminiscent of a *rôle* in comic opera.

The British Pooh-Bah, however, cannot be suspected of pocketing "insults" like his prototype, but the prerogative of making lucrative appointments for persons possessing no qualifications for the duties cannot be altogether without "consolation."

This comical travesty of rational government has, however, its serious, nay, even its tragical side.

The Lunacy Law and its administration, originated by successive Lord Chancellors, has constituted a tragedy, the enactment of which has occupied scores of years, has cost numerous lives, unmeasurable suffering and immense expenditure. Nor can this country expect to see at any early date the closing scenes of this perennial play.

Such a description of lunacy law, past and present, may sound exaggerated to those unversed in lunacy matters, but it is a simple statement of the case to those acquainted therewith.

The pages of this JOURNAL for the last forty years are a lasting memorial of the evils resulting from this predominance of law in lunacy, from the testimony of numerous men, whose know-

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ledge of the facts cannot be contested, and whose experience is beyond all question.

The marvel consists in the absence until the present moment of any serious effort to obtain reform.

The effort to obtain a ministry of health has commended itself to our Council, which has authorised the Parliamentary Committee to act for the Association in this matter. It is not probable that this Committee will give any support to the suggestion that national health should be placed under the care of the Local Government Board. Such a result would constitute a serious disaster in regard to the public health, but more especially as affecting the welfare of the insane. It would indeed be a substitution of King Stork for King Log, and should be opposed to the utmost extent of the power of the Medico-Psychological Association.

Clinical Work in Asylums.

The desirability of increasing the output of clinical work in British asylums has been frequently dwelt on in the pages of this Journal, but no apology is needed for again recurring to the subject, since there still remains very considerable need of further progress in this direction.

Clinical work is at once the foundation and the evidence of interest in medical work, and is so obviously the true foundation of legitimate professional success that self-interest alone would seem to supply a sufficient motive. That it does not do so in a large number of instances proves that other influences must exist to inhibit this.

A thorough inquiry by the senior members of the specialty in regard to these inhibiting causes and the means of removing them is most desirable.

The first inquiry should be in regard to the encouragement and assistance given by the seniors to the juniors. Asylum superintendents, with scarcely an exception, encourage their juniors to undertake clinical work, but do they sufficiently earnestly impress on these latter the importance of it, or demand it of them as a duty, or aid them sufficiently in their earlier attempts? Do the superintendents take sufficient trouble to ascertain and overcome, if possible, the indolence, indiffer-

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ence, bashfulness, or other causes that keep the younger men from producing such work?

The professional qualifications of the juniors are usually of a very high order, and would forbid the idea that they were not trained to record clinical observations, and hence some of the reasons suggested, or others not alluded to, must come into play in preventing the present output of work, large as it is, from becoming larger and more valuable.

Whatever the causes, it is most important that they should be investigated; that measures should be taken to remove them and to substitute inducements and encouragements of every possible kind with the end of raising to a still higher level the reputation of the specialty for scientific interest in morbid psychology.

Part II.—Reviews.

The Sixty-First Report of the Commissioners in Lunacy for England.

The report deals with the year ending December 31st, 1906. It begins with the good news that the increase in the number of certified insane is below the average. The total number of insane under certificate in England and Wales on January 1st, 1907, was 123·988, an increase for the year of 2009, and thus below the average increase for the last quinquennium (2655) and the last decennium (2462). Pauper patients constitute 91·2 *per cent.* of the total number certified. Attention is again drawn to the increase of patients classified as "private" in county and borough asylums; this, it is explained, is largely due to the fact that a patient, whose friends pay the full maintenance rate, is not technically a "pauper," but since county authorities are not bound to provide accommodation for private patients it is customary to make a higher charge for such patients for the capital expended on, and upkeep of, the building. The position is an anomalous one, as many counties have not room for their pauper patients, but have to find room for patients whose friends can pay the full maintenance, and, perhaps, something more. In a word, this increase of "private" patients in county asylums emphasises the necessity of the establishment of asylums where patients can be maintained at a figure slightly higher than the ordinary pauper rate.

The Commissioners have not yet been able to answer the much asked question of "whether insanity is on the increase." The number of the insane to the general population is 1 to 282, ten years ago it was 1 to 314. An instructive table (on page 8) shows the number (per 10,000 population) of the admissions and first attacks since 1876. The conclusion drawn from this table is that the number of "first attacks"

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is on the increase, and therefore, presumably, the "incidence" of insanity; but the Commission very properly hesitate to accept this as a fact, because the figures deal only with the certified insane, and it is well known that many cases now come under certificate who used not to do so.

The fluctuations in an asylum population are worth study, they show that of the admissions in any one year about 46·8 *per cent.* remain longer than one year, 35·6 *per cent.* than two years, 14·4 *per cent.* than twelve years, and only 6 *per cent.* after twenty years. Of those patients that recover 88·8 *per cent.*, and of those that die 48·5 *per cent.*, do so within a period of two years from their admission.

As regards statistics of special medical interest are, the recovery-rate for the year, 37·32 *per cent.*, a fraction below the average, and the death-rate, 9·85 *per cent.*, also a fraction below the average. As regards sex, the ratio in the admissions 49 to 51 is much the same as in the general population; but among the resident insane is as 46 men to 53·9 women, owing to the higher death-rate among the male insane. Mania appears to be diminishing and melancholia increasing, but mania is more liable to relapse; not much reliance can be placed on this statement as it is largely one of nomenclature. It is to be hoped that in future, owing to the efforts of the Statistical Committee of the Medico-Psychological Society, more uniformity in nomenclature will be brought about. It would appear that senile dements have not usually been insane before. The age period for general paralysis of the insane is 35—44. The incidence of epilepsy is chiefly among male paupers.

Though so many asylums have been built of recent years, the Commissioners still find it necessary to comment on the neglect of local authorities to provide accommodation, thus necessitating the patients being housed elsewhere at an increased cost to the ratepayer.

Considerable space is given in the report to the conditions of service of those attending on the insane. It is fully recognised that the hours of duty are very long, but also it is admitted that shortening the day for nurses and attendants is not within the range of practical politics. They suggest that compulsory pensions, good pay, liberal allowances of occasional leave are due to those who spend their lives in a very harassing employment. An effort has been made to discover whether insanity is more common among asylum employés than the general population, and the conclusion is that it is so, taking into consideration the standard of mental and physical fitness required before such employment can be undertaken.

The cost of maintenance per head per week of the pauper lunatic has dropped twopence, and has not been so low since 1902.

The returns of dysentery and diarrhœa in asylums indicate that the latter is associated with the former, and there is evidently a growing belief that the condition is contagious.

Much has been written lately about the system of boarding out lunatics, and there is every reason to suppose that it might be adopted in England with advantage, were there more facilities for doing so.

Among the prosecutions is the case of embezzlement by a clerk and steward. In these days it is very necessary that every conceivable check on the stores and books of a large institution should be kept

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Another case of importance is that in which a workman, employed by a contractor, misconducted himself with a female patient. The learned judge held that, not being "a manager, officer, nurse, or attendant," he did not come within the meaning of the Lunacy Act, 1890, §324.

In conclusion, the Commissioners draw attention to the total inadequacy of their number to cope with the work allotted to them. Their report is, under such circumstances, sufficient evidence of how thoroughly they do their work, and of the high standard they set themselves.

The Forty-ninth Annual Report of the General Board of Commissioners in Lunacy for Scotland, 1907.

The Report gives in the first place the usual statistical information in regard to lunacy in Scotland for the year 1906. On January 1st, 1907, there were in Scotland, exclusive of insane persons maintained at home by their natural guardians, 17,593 insane persons known officially to the Board. Of these, 17,121 were registered insane, comprising 14,214 persons in Royal, district, parochial, and private asylums and in lunatic wards of poorhouses, and 2,907 persons under care in private dwellings. The non-registered insane were 51 persons in the Criminal Lunatic Department of the General Prison at Perth, and 421 in training schools for imbeciles. Of the registered insane 2,375 were maintained from private sources, and 14,746 by parochial rates; and the figures show that during the year 1906 there was an increase of private patients by 9, and of pauper patients by 166. Among the non-registered insane the number in the Lunatic Department of Perth Prison (and maintained by the State) was the same as in the previous year, while in training schools for imbeciles there was a diminution of 32.

Amount of insanity in proportion to population.—The statistics show that in eighteen counties there was a decrease (amounting to 96) in the number of pauper lunatics, and that this decrease occurred not only in counties in which the population is stationary or falling, but also in counties having large industrial growing centres of population, such as Aberdeenshire, Forfarshire, and Fife. This was more than counterbalanced by an increase of 262 in the remaining fifteen counties, but of this increase 201, or 77 *per cent.*, is contributed by the four counties of Edinburgh, Lanark, Renfrew, and Stirling, in which the general population is growing rapidly, and in which, therefore, an increase in the number of the insane might naturally be expected. Taking private and pauper patients together, the proportion of registered lunatics fell from 363 (per 100,000 of estimated population) on January 1st, 1906, to 362 on January 1st, 1907. This is the first year in which a decrease has occurred since the beginning of the statistics in 1858; and viewing it along with the stationary figures of the previous two years the Report expresses the hope that the burden which lunacy entails upon the country is probably reaching its limit. The tables showing the number placed on the register annually, and the number of persons registered for the first time in each year, are continued, and point towards the same conclusion. The largest number placed on the register in one year occurred in 1902, when it was 3,660. It fell to 3,616 in 1903,

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rose to 3,658 in 1904, and has since fallen to 3,449 in 1905, and 3,370 in 1906. Taking the numbers registered for the first time, the table shows that in the case of private patients the proportion to population has fluctuated within narrow limits during the thirty-three years included in the figures, and is for the year 1906 lower than it was in 1874. For pauper patients the proportion rose more or less steadily until the year 1902, when it reached the maximum of 52·6 (per 100,000 of population). It has since fallen, the proportions for the past three years being respectively 50·5, 47·9, and 45·1. Combining the figures for private and pauper patients, the largest fall has occurred in the year which has just closed.

Admissions, discharges, and deaths.—Excluding transfers from one establishment to another, the number of private patients admitted to asylums during 1906 was 536, being 9 less than in the preceding year, and 33 less than the average for the quinquenniad, 1900–04; and the number of pauper patients admitted was 2,856, being 64 less than the number in the preceding year, and 152 less than the average for the quinquenniad, 1900–04. The number discharged recovered was equal to a percentage on the admissions (excluding transfers) of 41·2 in the case of private patients, and of 39·4 in the case of pauper patients, both these figures being somewhat below the average of recent years. Calculated on the average number of patients resident, the percentage of cases discharged unrecovered (again excluding transfers) was 5·2 for private patients, and 3·8 for pauper patients. Of the pauper cases discharged unrecovered, 216, or 48 *per cent.*, continued afterwards to be provided for as pauper lunatics in private dwellings, while 235, or 52 *per cent.*, were removed from the poor roll and ceased to be under the board's cognisance. The proportion of patients who died in asylums during 1906 (9·4 *per cent.* of the average number resident) was considerably higher than the average of the preceding five or six years, both for the private and for the pauper class. There has in fact been a pretty steady increase in the death-rate since 1890; and it is pointed out that the occurrence of this higher death-rate in spite of improved sanitary arrangements, of lessened overcrowding, and of more efficient means of treating special diseases, such as pulmonary consumption, lends support to the view that patients physically broken down are being received into asylums in increasing numbers, a condition which also has an effect in lowering the recovery rate.

Attendants and servants.—The number of changes among the attendants and servants engaged in asylum work is relatively large; and it is again urged that an inducement to more steady service would be held out if the district asylums in Scotland were put in possession of the same rights in regard to pensions as the county and borough asylums of England. In connection with this point it may be mentioned that the Scottish Division of the Medico-Psychological Association is at present taking steps to have the matter of pensions brought again under the notice of the Government.

Lunatics in private dwellings.—The number of pauper patients provided for in private dwellings on January 1st, 1907, was 2,774. This is the highest total ever reached, and represents 18·8 *per cent.* of the total number on the lunatic pauper roll; and it shows that the system of

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private care continues to play a very important part in the Scottish arrangements for providing for the insane. The reports of the Deputy Commissioners emphasise its efficiency and suitability for certain classes of lunatic patients, and indicate that with more energy and more hearty co-operation on the part of asylum superintendents and inspectors of poor it would be possible to extend it considerably further, some parishes having as many as 28 *per cent.* of their lunatic poor provided for in this way. In this connection the following sentences taken from a report by Commissioner Dr. John Macpherson deal with a point of prime importance: "It is not infrequently urged against the Scottish family care of the insane that there is not the same constant supervision of the duties of the guardians which exists in some continental lunatic colonies. While there can be no doubt as to the truth of this statement, it may be contended, on the other hand, that inspection may be carried so far as to weaken the sense of responsibility of the guardians. My experience is that no supervision, however frequent, is a sufficient protection against certain defects which are occasionally found in the care of patients. I have also learnt, after some familiarity with the system of boarding-out, that it is generally possible to decide in the course of a short visit whether the duties of guardianship are properly performed, and that it is almost always possible to discover whether the patients are admitted within the family circle or are treated as outsiders. Upon this question of admission to the family life hinges the whole success of the Scottish system; where it is neglected, however perfect in other respects the guardianship may be, the results are disappointing; where it is conscientiously adhered to official visitation tends to become less inquisitorial and more a means of strengthening a relationship which is in itself the surest prevention of abuses."

Several other points of interest are dealt with in the report. The want of accommodation for the poorer class of private patients is again pointed out, and the opinion is expressed that permissive power should be given by statute to the District Lunacy Boards to provide accommodation for these cases. Several pages are devoted to the question of restraint and seclusion in asylums, and a table is given to show how far these have been used during the last five years. It is recognised that these measures may occasionally be justifiable under exceptional circumstances; but it is noted with approval that there has been a very marked diminution in the extent to which they are now resorted to, and it is pointed out that this reduction has been not only unattended by any known disadvantage, but has also been of material benefit both to the patients and to those in charge of them. Reasons are given for adopting in future a different method of classifying the causes of death among the insane, with the object of securing more trustworthy results in the deductions drawn from them. From information collected for the use of the Royal Commission on the Care and Control of the Feeble-minded, it appears that in every 100 patients admitted to establishments for the insane (including training schools for imbecile children, but excluding transfers) 7·3 are the subjects of congenital or infantile imbecility, and 92·7 of acquired insanity. Much detailed information is given in regard to the cost of providing asylum accommodation and the cost of the yearly maintenance of patients.

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The former varies very greatly in different instances, according to the special circumstances of each case, while the maintenance expenses fluctuate within much narrower limits. A table drawn up from the expenditure in sixteen district asylums shows that for the year 1906 the average cost per patient was £17 12*s.* 2*d.* for providing accommodation and £25 10*s.* 10*d.* for maintenance expenses, giving a total cost of £43 3*s.* per patient.

The present blue-book is, as in former years, very informative and suggestive, and well deserving of study by those concerned in administering lunacy relief.

Fifty-sixth Report of the Inspectors of Lunatics on the District, Criminal, and Private Asylums in Ireland for the year ending December 31*st*, 1906.

In their special report on the alleged increase of insanity, published last year, the inspectors, in alluding to the reduction in the number of first admissions, which in recent years has shown "a progressive and substantial falling off," express the hope that "we are reaching, if we have not already reached, the highest curve of the line indicating the annual rate of insanity in this country"—a welcome piece of information. The statistics for the year 1906, when taken in connection with those of the previous few years, go far to support this view, as the figures show a general reduction all round in total admissions, first admissions, and in the increase of patients under care.

Taking the last first, the total increase of patients under care on January 1st, 1907, was only 189 over the number at the beginning of 1906, as compared with an increase of 369 in the previous year, that of 1906 being the lowest recorded for the past twenty-one years, with the exception of 1893, when it amounted to 152, and being 311 less than the average for the preceding ten years, which was 500. In the ten years ending 1905, the average increase was 405; the highest average, however, was in the decade 1894–1903, when it attained its maximum of 551. The aggregate number of insane under care on January 1st, 1907, was 23,554, of whom 19,306 were in district asylums. The numbers in these institutions increased by 249, as compared with 442 in 1905; those in private asylums by 27, the increase in 1905 having been 23; those in Dundrum Asylum by 2, while the number in workhouses *decreased* by 87, there being now only 13 *per cent.* of insane under care in those institutions, whereas twenty years ago they formed 25 *per cent.* of the total, or all but double the present proportion. This depletion of the insane in workhouses is bound to continue until these institutions are completely relieved of such a charge, for which they are not in any way adapted, unless some of the workhouses themselves are transformed into properly equipped auxiliary asylums, which is not beyond the limits of possibility.

The number of total admissions into district asylums for the year was 3,524, a fall of 248 from that of the previous year, when they were 3,772, the number of first admissions having also fallen from 2,966 to 2,763, a reduction of 203. There has been a progressive diminution in

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the number of first admissions for the past four years, the decrease being for each year 48, 22, 137, and 203 respectively.

It may be objected that this absolute decrease in the number of admissions must be largely discounted in the face of a decreasing population, which is still unfortunately a feature in Irish statistics; but if we calculate the ratio per 100,000 of estimated population of first admissions, we find that there has been a very decided decrease during the past five years, as shown by the following short table:

Year.	Estimated population.	First admissions to district asylums.	Proportion per 100,000.	Percentage decrease.
1902	4,432,274	3,173	71·5	—
1903	4,413,658	3,125	70·8	0·97
1904	4,402,182	3,103	70·4	0·56
1905	4,391,565	2,966	65·2	7·38
1906	4,387,887	2,763	62·9	3·52

The facts disclosed by the above table suggest that the practical usefulness of the table on p. 15 of the inspectors' report would be greatly enchanced if after each column of first admissions, re-admissions, and total admissions respectively, another column giving the proportion per 100,000 of population of the figures under each heading were added. Once the calculations for the series of years included in this table were made out and recorded, the additional labour of computing the ratios for each successive year would not be of any magnitude, and such a table would be of material assistance to the inspectors themselves or their successors when compiling their statistics of lunacy for their annual reports, and still more so whenever they might be called on for a special report, as after each census, when they would be simply invaluable. The Lunacy Office has generously responded—so we are fain to think—to suggestions made in these columns from time to time as regards the furnishing of additional tables, for which we are exceedingly grateful, and we should feel under fresh obligations to the inspectors if they could see their way to adopt the one now offered. It would merely mean the extension to the table of admissions of the principle adopted in the table on p. 13, where the proportion of insane to population is given for a series of years. Such a return would, in fact, be of more value than any other with respect to the question of the increase of insanity, as the ratio of first admissions to population is admittedly the only just criterion of that increase, and a table of this kind would show at a glance the one fact which both the profession and the public, and we might perhaps add, the Government, are mainly solicitous to know.

It would seem, then, that we are almost within sight of a cessation to the "increase of insanity" in Ireland, in the only legitimate sense of the word, although the number of insane under care may go on increasing for some time to come, owing to the persistence of its one chief cause,

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accumulation. But as an increase in the death-rate, owing to the greater number of senile cases sent to asylums than heretofore, is not unlikely to occur, the accumulation may proportionally decrease and perhaps cease to occur. However, even four years is not a sufficiently long period on which to build prognostications with any certainty. We must still bide our time, and seek to possess our souls in patience.

The decrease in admissions was not universally distributed over the various districts, being in fact limited to sixteen of them, while there was an increase in eight. Over 66 *per cent.* of patients were admitted on warrant as dangerous lunatics, a proportion probably wholly unjustified by facts, but we have commented *ad nauseam* on this objectionable mode of procedure which exists in Ireland alone of all civilised countries, and with respect to which our legal authorities seem undesirous of making the slightest move towards its abolition.

The recovery rate was 37 *per cent.* on admissions, being fractionally higher than that of the previous year, Downpatrick showing the very high ratio of 59·7 *per cent.*, while Sligo only discharged 24·1 *per cent.* of its patients recovered. It is difficult to account for such extreme differences, but, as a matter of fact, there is no asylum in Ireland where more scrupulous care and attention are given to the interests of the patients, whether from a hygienic, medical, or social point of view, than in Downpatrick, and the high recovery-rate may at least in part be fairly attributed to the very able management of that institution and the individual concern of which each case is made the subject.

The death-rate was 7·6 *per cent.* on the daily average, or just the average for ten years past, there being hardly any fluctuation in this proportion for a long series of years. The highest death-rate was 11·4 *per cent.* in Maryborough, and the lowest 4·3 *per cent.* in Limerick Asylum. Pulmonary phthisis accounted for 25 *per cent.* of the total deaths, which is below the average of previous years. If we take the three last quinquennia we find that the death-rate from phthisis was 25·8 *per cent.*, 28·4 *per cent.*, and 27 *per cent.* respectively of the total mortality. It is a high ratio, but it is so far satisfactory that it does not appear to be on the increase. The relative mortality from this disease in English asylums is 15 *per cent.*, but as there is a far higher mortality in Ireland from this cause than in England amongst the general population it is not to be expected that asylums would escape. The recent movement in Ireland to endeavour to limit the ravages of this dreadful scourge will, it is hoped, have some beneficial effect, but it will probably take more than one generation to convince "the people" of the paramount necessity of cleanliness and ventilation which are too often conspicuous by their absence in the homes of the Irish peasantry. A vigorous crusade for the propagation of this gospel is urgently needed.

The inspectors comment on the fact that phthisis is most prevalent in those districts where we might expect it to be less, and *vice versâ*. The climate of the north is on the whole a much more severe one than that of the south, yet the relative mortality from phthisis in Belfast asylum was only 6 *per cent.*, whereas in Dublin it was 27 *per cent.*, in Ballinasloe 33 *per cent.*, in Limerick 36 *per cent.*, and 41 *per cent.* in Cork. Mildness of climate, therefore, does not of itself seem to have any protective influence, but probably in the southern parts of Ireland

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there is not so much attention paid to cleanliness as in the north; and dirt is one potent factor in the dissemination of tuberculosis.

The relative mortality from general paralysis for the last three quinquennia was 2·96 *per cent.*, 3·92 *per cent.*, and 3·69 *per cent.* respectively. There are, therefore, no grounds for supposing that there is any progressive increase in the death-rate from this disease. Forty-nine cases in all were admitted, of which 10 were females, out of a total of 3,524, giving the very low percentage of 1·3. In English asylums the ratio is 6·2 *per cent.*, or nearly five times as large. The incidence on the two sexes differs very widely in the two countries, the proportion of males to females being thirteen to one in England, and four to one in Ireland, a fact it would be difficult to explain.

In the table on p. 19 giving the number of deaths due to consumption, general paralysis, and epilepsy, for a series of years, an additional column giving the *relative* mortality from each of these causes as a percentage of the total mortality would be of distinct advantage. Absolute numbers, no doubt, give a certain amount of useful information, but percentages are the only reliable statistical data on which to found conclusions as to the influence or prevalence of any cause or factor in either the production or fatality of insanity. The more tables of this kind we have the better, and in this respect the Irish still lags far behind the English blue-book.

Two suicidal attempts with fatal result are recorded, and five deaths occurred from misadventure, only one of which calls for comment, where the patient drank a quantity of Jeyes' "disinfecting fluid, and died within an hour from asphyxiation, caused by the swelling and resulting closure of his gullet, all attempts to pass a stomach-tube having failed." It is not clear how closure of the gullet with failure to pass a stomach-tube could of itself cause "asphyxiation" proving fatal within an hour. Some further light is thrown on the matter by the statement lower down that, "as regards the patient's treatment it appeared that the only chance of prolonging his life lay in the immediate opening of the windpipe." But for the reference to the stomach-tube one might have surmised that "gullet" was a misprint for "larynx," but the description is rather mixed. Jeyes' fluid claims to be non-poisonous, but this case shows that it cannot be taken internally with impunity.

The number of patients in private asylums has been steadily increasing for the past twenty years. If we divide the twenty years 1887–1906 into four five-year periods, we find that the average admissions into private asylums were 162·4, 170·8, 205·6, and 240·8 respectively for the four quinquennia, the rise in the second being 5·1 *per cent.*, in the third 20·3 *per cent.*, and in the last 17·1 *per cent.* over the previous period. And if we calculate similarly as regards the numbers resident, the quinquennial averages work out at 622, 654, 709, and 795 respectively, the percentage increments in the last three periods being 5·1, 8·4, and 12·1 respectively. The number resident in 1906 (845) compared with that in 1887 (625) shows an increase of over 35 *per cent.*

This increase, however, does not necessarily denote a proportional increase in the amount of insanity occurring in patients of the better class, and is, probably, rather an indication of a growing confidence in

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the management of Irish private asylums, owing to which no doubt patients are sent to them now who would have been sent to English or Scottish asylums were it not for the greatly improved conditions which obtain in Irish institutions of this class compared with those which existed a quarter of a century ago. At that time many of them were characterised by a depressing dinginess and dreariness, undermanned as regards the staff of attendants, for the most part without a resident physician, and deficient in any means for the recreation or entertainment of the patients. This has all been changed, and Irish private asylums are now comfortable homes where the sick in mind are well cared for, and where every means is taken to promote their recovery. They have consequently risen proportionally in the estimation of the public, who are glad to avail themselves of the advantages they offer, without the necessity of sending patients across the Channel, far from their friends, and, as a rule, at considerably higher charges for maintenance. The present lunacy inspectors have never ceased their efforts in this direction, and deserve to be accorded a full recognition of their valuable endeavours to raise the status of private asylums, and acknowledgment is also due to the proprietors of these establishments for the readiness with which in the large majority of instances they have responded to the demands made on them.

The inspectors comment favourably on the condition of Youghal Auxiliary Asylum, much improvement being noticeable in the care and treatment of the inmates. The patients are far better off than in the "idiot wards" of workhouses, and the cost of their maintenance is 35 *per cent.* under that of the district asylums. The death-rate was heavy, 15·2 *per cent.* on the daily average. This was to be expected, having regard to the class of patients admitted—old, decrepit, and worn out. But what we should not expect is the high relative death-rate from consumption, 38 *per cent.* of the total mortality. This is certainly unusual in patients long past the meridian of life, as most of these presumably are. It is not without significance that the capitation cost for the important necessaries of life, provisions, clothing, bedding, and fuel, and light is 38 *per cent.* under that of the district asylum average, the relative decrements under these several headings as compared with district asylums being 31·5, 58·4, 83·2, and 36·6 respectively. These seem large differences, and it is to be hoped they do not represent a too niggardly *ménage*. The inspectors, however, appear to be satisfied with the arrangements, and it is not impossible that some adequate explanation is forthcoming.

Reports on the condition of the lunatic wards of eleven workhouses are appended. Most of them are sombre in character, mournful reading for anyone who has any claim to possess feelings of ordinary humanity. Limerick, Armagh, and the South Dublin Union are honourable exceptions. Sligo is one of the worst, and deserves to be pilloried. No proper provision for the care of such cases, no fixed bath or hot water supply, no trained attendants, no one responsible for supervision, many of the inmates in a very neglected condition, their bed-clothes filthy and infested with vermin—a sickening description, which ought to appeal to even the slumbering conscience of the Sligo Poor Law Guardians. But bowels of compassion are not to be looked for with

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any degree of confidence in the anatomical organisation of the so-called "guardian of the poor."

The changes in the *personnel* of the asylum medical service have not been numerous during the past year. Dr. Taylor, of Monaghan Asylum, retired "after thirty-one years' faithful service." Dr. James J. Fitzgerald, Medical Superintendent of Carlow Asylum, was appointed to the more important and responsible position of Superintendent of Cork Asylum. Dr. Fitzgerald was only appointed to Carlow in 1903, but had proved himself a capable and efficient officer. We congratulate him on his early promotion.

The inspectors regretfully record the death of Dr. G. W. Hatchell, Medical Superintendent of Castlebar Asylum. He was the son of the late Dr. George Hatchell, who with the late Sir John Nugent were the predecessors in office of the present Inspectors in Lunacy.

One other fatality in the ranks of the medical staff merits more than a passing notice. By the death of Dr. R. A. Graham, Junior Assistant Medical Officer of the Belfast Asylum, the asylum service has sustained a severe, almost an irreparable loss, for such men are not easily replaced. Dr. Graham's industry and enthusiasm in scientific study were well known to his asylum colleagues throughout Ireland. Rarely has any assistant physician done so much good work during such a brief career, showing clearly what can be achieved by the younger members in the speciality if only they are in earnest in taking advantage of their opportunities, which in so many cases are quite overlooked, mere routine supervision being too often regarded as the sum total of asylum work, and comparatively little interest evinced in those questions of surpassing interest which can be studied within the walls of an asylum by any trained mind gifted with even a moderate desire for knowledge. The life of many assistants, which is often regarded as attended with more or less monotony and *ennui*, might be transformed into one of intense interest and pleasure could they once be induced to apply their energies and use their opportunities in the cause of scientific investigation. It is to be feared, however, that the man of scientific instincts, like the poet, *nascitur non fit*, and where this zeal for knowledge does not, at any rate to some extent, already naturally exist, it is a question whether it can be artificially developed. The inspectors pay the following warm tribute to the work and character of Dr. Graham:

"The loss of this most promising officer, whose gentle manner endeared him to all with whom he came in contact, is one which is greatly to be deplored, on scientific as well as on personal grounds, as his great skill and untiring zeal in the pursuit of pathological research, which we have frequently commended in our reports on the asylum, gave promise of results which might have proved far-reaching in their effect."

These words will find an echo in the hearts of all those who had the privilege of knowing Dr. Graham.

As has been more than once remarked in these pages, the Lunacy blue-books in latter years have been greatly enhanced by the supplementary tables in the body of the inspectors' reports, the most valuable of all being those which give percentages extending over a series of years. Only thus can statistical figures be made really useful, and solid

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and well-grounded conclusions arrived at. We hope that this practice will be continued in all future reports, and that, even though the Office is handicapped by a numerically inadequate staff, we may look for still further useful additions of this kind in the coming years. We have arrived at an exceptionally interesting stage in the annals of insanity, and we may perhaps venture to hope that before long we may be in a position to make more cheerful forecasts than hitherto regarding the future prevalence of insanity as the fruit of each year's statistical harvest.

Insanity and Allied Neuroses: a Practical and Clinical Manual. By GEORGE H. SAVAGE, M.D., etc., with the assistance of EDWIN GOODALL, M.D., etc. New and enlarged edition. Cassell & Co., 1907. Pp. 624.

We are glad to welcome a new edition, which is not merely a reprint, of this excellent handbook. Savage's *Manual* has been a household word with the English student and practitioner for the last twenty-three years, and although it is not to be expected, considering the pace we live at nowadays, that it will not need revision within some years, we confidently expect that in the improved form in which it comes before us it will hold its pride of place for several generations of students.

Three chapters in the earlier part of the book are devoted to ætiology. No portion of the author's work shows better his characteristic width of view and balance of judgment. The mixed causation of most cases of insanity is evidently ever present in his mind. The curious purblind tendency of many moderns, which they deem a "scientific" attitude, leading them to deny the existence of any coefficients and to reject every cause except a narrow "physical" one, is quite opposed to the broad, free outlook of our author, who will not shut his eyes to facts merely because they cannot be made to conform to preconceived theories or to the deductions of other branches of science. Even in cases where there is a very well-marked and distinct cause of the toxic order there may be a contributing cause, and the latter may either be what is commonly called "physical" or "psychical." Thus it is shrewdly pointed out that delirium tremens is often known to follow in a toper upon a physical shock or injury. Every experienced physician or surgeon has seen such cases well recognised by the older writers under the designation of *delirium traumaticum.* Dr. Savage points out that under similar conditions a similar state (insanity closely resembling or identical with delirium tremens) may be produced by a severe mental shock. Similarly, he insists in a later chapter on the importance of worry as a factor in the production of general paralysis. "My chief objection to any tabulated returns of the causation of insanity as seen in asylum patients is that it is extremely uncommon to find a simple, straightforward case in which there has been but one predisposing and one exciting cause" (Chapter III). Of course, the statistical tables of our large asylums are only of value as indicating the comparative frequency with which certain causes are attributed to mental illness. Circumstances of various kinds render it impossible in most cases to

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obtain a life history of each patient that is of any value. The ignorance of patients' relatives, the stupidity of patients themselves, the numerical insufficiency of the medical staff in all our large asylums, and, above all, that neglect of the methods of clinical research which is so carefully cultivated in this country, combine to render our statistics a very haphazard affair. The conditions at Bethlem Hospital, where Dr. Savage so long worked and taught, are, of course, very different, and this fact, together with his singular sagacity and clearness of judgment, give all his opinions a power and weight rarely to be found in the utterances of any specialist. He is one of those few writers who "see life steadily and see it whole." As Emerson said of Shakespeare, "he is no cow painter nor remarkably eminent at drawing grass." He sees the world as it is and draws it as he sees it, often, indeed, in a large sketchy outline, but always truly. The numerous cases and illustrative histories scattered up and down through this book may be frequently brief, but are ever unlaboured; they are photograph snapshots—exactly to nature and absolutely unadorned with midnight oil or chamber perfumes. They have an air of vigour and veracity which is all their own, and they recall instantly, to those who have had the pleasure of hearing him *vivâ voce*, the bedside discourses of this great clinical teacher.

In his new edition our author has not thought it necessary to displace the old terms because they are not satisfactory and substitute others quite as vague and eclectic. Thus he has not replaced "mania" and "melancholia" by "manic-depressive" insanity. To "primary dementia" he gives a wider significance than is usually applied to this term, making it cover most cases of an acute or subacute character which do not begin as the distinctly maniacal or melancholic symptoms. Dementia præcox is briefly described under its three main varieties, "but," it is said, "it is not yet definitely proved that all such cases end inevitably in dementia, and that such a termination may, in a very early stage of the disease, be prognosticated by certain specific symptoms. The clinical evidence for the recognition of dementia præcox as a definite disease is insufficient." It is a remarkable thing that neither of the eminent teachers who have been the leaders of clinical psychiatry, respectively in the modern Athens and the modern Babylon, have been able to recognise this dementia præcox as a distinct disease, though they were among the earliest, if, indeed, they were not the very earliest, to describe the remarkable peculiarities often exhibited by the adolescent insane.

The clinical description of general paralysis is of great excellence. The author, however, has probably not reviewed his earlier opinion, with regard to the relation of syphilis to this affection. At any rate in the work before us he attributes far less importance to old-standing syphilitic infection than most writers of to-day. As above mentioned, he lays some weight upon worry and anxiety as causes of this disease. Of course, this is in no way inconsistent with the now common view of the importance of syphilis as a cause, at least, of the predisposing order. The famous saying, "Syphilisation and civilisation," means syphilis *plus* the wearing conditions of modern life, which may, perhaps, be briefly termed "worry."

The recent very remarkable work of Dr. Ford Robertson with regard to the diphtheroid bacilli which that able pathologist has believed to be

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the essential cause of this disease is mentioned, with the cautious note that Dr. Robertson's "observations have not, so far, been accepted by English pathologists."

In connection with moral insanity, the sexual perversions are briefly but efficiently dealt with.

A short chapter is given to volitional insanity—obsessions, impulse, doubt—of which we have to say that it is to be regretted that Dr. Savage, from his vast experience, has not given a more detailed account of these interesting border-land conditions, the study of which is so fascinating. By the way, the position of this chapter between "Insanity due to Toxic Influences" and "Idiocy and Imbecility" is a somewhat jolting arrangement. The occasional appearance of what the geologists would call intrusive formations is probably inevitable when a standard work has to be re-written.

The chapters on insanity associated with visceral disease and insanity due to toxic influences are well up to date and not in advance of the times as a good deal of modern writing is. It is wiser to reserve judgment than to assume the truth of a number of hypotheses as yet unproved, and which, perhaps, never will be proved.

The book concludes with chapters on the responsibility of lunatics and the legal relationship of the insane, both useful, the former penned in the usual philosophic spirit of Dr. Savage's writings.

We may fairly infer that the parts of the present work which deal with the morbid anatomy of insanity are chiefly due to Dr. Goodall, and they are well calculated to enhance the reputation of that excellent pathologist. Nothing could be better for the purposes of a student's manual. The descriptions are brief, clear, well balanced, and thoroughly abreast of what is essential in modern work.

On the whole, the new Savage, or, as we should say, the new Savage and Goodall, is to be classed as a text-book of the first rank.

Alcoholism: a Chapter in Social Pathology. By W. C. SULLIVAN, M.D. London: James Nisbet and Co., 1906. 8vo. Price 3*s.* 6*d.* net.

Dr. Sullivan's work throws a new light upon alcoholism. It is marked by a breadth of view and a freedom from all intolerance which carry the reader through an intelligent and intelligible discussion of this difficult subject with never a wish to skip a page or to elude the issues so clearly set forth. The book is more particularly designed to elucidate the connection of alcoholism with industrial conditions, which hitherto have been inadequately recognised. We thus escape the dreary details which writers on this subject have repeated so uniformly, and at such intolerable length. We are brought to a consideration of a social problem by an array of facts which show how widely Dr. Sullivan has cast his net, and by an orderly process of argument which reveals his well-balanced mind. He introduces the subject with a brief historical sketch which indicates the beginnings of the modern industrial system and the change in the legal attitude towards intemperance, by the Licensing Law of 1551. His new view of the question leads him

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to remark on the enormous increase of alcoholism by the national policy in favour of free distillation in the end of the seventeenth century, and to indicate the effects of the development of the factory system in bringing about a rapid extension of industrial drinking.

In order to make his standpoint clear, Dr. Sullivan then enters on a consideration of the physiological action of alcohol, especially discussing the conclusions of Kraepelin and his school. The dulling of sensation and the stimulation of motor activity giving rise to a sense of well-being, the notable gain in working capacity before the phase of depression sets in, and the modification of coarse food by the addition or substitution of alcohol are mentioned with many other facts in this excellent *résumé* of recent observations and researches. He concludes that the labourer finds, in these and similar effects, an aid to enable him to perform his daily tasks, however detrimental the effects in the end.

Dr. Sullivan then considers drunkenness as a state of acute intoxication before passing to the discussion of chronic alcoholism, and the prevalence of acts of suicide, violence, and lust in that condition. He makes short work of the crude opinion that inebriety is a symptom of disease and the fantastic theory of the "drink-crave," and sharply contrasts convivial drinking with industrial drinking. We regretfully omit any attempt to condense Dr. Sullivan's study of the social causes of intemperance; but we may mention his finding that the low rate of alcoholic mortality and of suicidal attempts in the great mining counties despite their high rate of drunkenness, corresponds with the relative immunity of coal-miners from alcoholic disease. He proves that drunkenness and alcoholism are so far independent phenomena that the maximum of drunkenness may coincide with the minimum of alcoholism, and that the tendency to chronic alcoholism is mainly connected with the mode of industry.

The sixth chapter is a most important contribution to the proper understanding of alcoholism in England and Wales. It is the result of laborious and thoughtful industry, and deals with the habits of waterside labour, unskilled transport labour, building trades, carriage building, gas-stoking, glass-blowing, metal trades, textile industries, boot and shoe making, printing, coal-mining, etc. His remarks on the industries employing women are of special importance, showing that it is the rule that women working at or in connection with a trade where the alcoholic tradition amongst the male workers is strong, will in a large measure adopt that tradition, quite irrespective of whether the character of their own labour does or does not involve any intrinsic tendency to industrial drinking. In addition, Dr. Sullivan remarks on the disorganisation of their domestic duties, which interferes with the acquisition of housewifely knowledge during girlhood. So have we heard a distinguished German discourse on the failure of our women of the industrial class as mothers and housewives, and regard it as the main cause of our appalling drunkenness. Thus alcoholism is increased not only in itself but in its evil influence on the health of the stock.

In discussing the factors of industrial drinking it is acutely stated that the higher consumption of liquor in "good times" is not a true indication of an increase in alcoholism, and Dr. Sullivan concludes that the present evolution of our industrial conditions is tending towards a

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decided decrease in the prevalence of alcoholism, most pronounced in the skilled industries, but also evident in the lower sorts of labour.

We regret to be unable to refer in detail to the chapters on alcoholism and suicide, crime and insanity, but must note in passing the interesting nature of the argument, specially the conclusion that alcoholism is the cause of a large proportion of homicidal offences, but is a relatively insignificant influence in crimes of acquisitiveness. Comparing the counties high in the scale of alcoholism with the mining counties where drunkenness is most rife, they are both shown to have very low rates of insanity.

Finally, we would note that Dr. Sullivan does not believe that the degenerative effects of parental alcoholism are in the category of transmitted acquirements, but are the results of a deleterious influence exerted on the germ-cells, which constitutes a most serious and evil consequence of intemperance.

Dr. Sullivan insists that nearly all the graver effects of intemperance are due to chronic intoxication and hardly any to simple drunkenness—that is to say, due to industrial as opposed to convivial drinking. Thus, the drink question is practically reducible to the effect of this industrial drinking, which is connected with the use of alcohol as a stimulant for muscular work. It is this alcoholism which becomes recognisable in social history on the introduction of the modern industrial system, and which is now to be found in its inception in the centres of that system lately introduced into Spain and Italy. The factory creates the drink question in Dr. Sullivan's opinion, and we refer our readers to the book in question for the process by which he reaches that conclusion and the remedies by which he would mitigate present troubles.

Lucretius, Epicurean and Poet. By JOHN MASSON, M.A., LL.D. London: Murray. Demy 8vo, pp. 453.

Lucretius was a contemporary of Julius Cæsar, as Epicurus was a contemporary of Alexander. Dr. Masson has read all about Lucretius and everyone else who lived in those stirring times. In going through such critical disquisitions it is difficult to avoid the attraction or the recoil from a host of commentators. In this respect it is to be wished that Dr. Masson had less modesty or more self-reliance. In quoting the "opinions of the highest living authorities" on Cicero and Cæsar, he in many places gives us a set of stepping-stones instead of a bridge. While we wish to get into the times of Lucretius, the notes entering into small controversies continually drag us down to the mediocrities of the present age. We know not whether Dr. Masson's wide reading, wandering from Plato to Shelley and Victor Hugo, will add interest to the book with the readers of the twentieth century. We hope, however, that in another edition Dr. Masson may have the courage to sweep away most of his footnotes, as a carpenter, having finished his work, sweeps away his shavings. At the same time it would be unfair to deny that this excursive part of the work is often well written. At any rate our review will be confined to Lucretius and his philosophy. Of the poet himself we know scarcely anything save a few traditions loosely

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gathered by Eusebius. He was said to have become insane by a philtre given by his wife or mistress, and to have written his wonderful poem at sane intervals, and to have died by his own hand at the age of forty-four. His poem *De Rerum Natura* is dedicated to Memmius, who gained the rank of tribune and prætor, and took side against Cæsar in the civil war.

Apparently Lucretius carried out the precepts of Epicurus by shunning public employments and devoting himself to philosophy. There are no clear allusions to his life in the poem. In discussing the question or nature of his insanity Dr. Masson lays much stress upon a monograph by Ettore Stampini. This scholar believes that Lucretius "suffered from intermittent insanity (*pazzia alternante*) in the same way as did Tasso, who was subject from time to time to violent accesses of mental disorder, but that in the intervals he was able to write both poetry and philosophy." He considers it to be "a kind of epilepsy, in which maniacal acts, mental exaltation, and painful hallucinations alternated with periods of extraordinarily active power of thought." There is no evidence that Lucretius ever suffered from epilepsy, and the statement that Napoleon was an epileptic, even if it were correct, bears little upon the question. Tasso was no doubt insane; but his writings, after he became deranged, showed a marked falling off. The case of Auguste Comte would be a better illustration. Philtres were much in vogue in those times, furnished by a disreputable class, who seemed to have used large doses of powerful drugs, such as henbane or stramonium, which disordered the intellect. Although the use of a philtre to make a person fall in love with a given individual is a superstition, it might reduce the subject to a condition in which the will power was deficient and the sensual desires were excited. It does not seem clear that because Lucretius mentions dreadful dreams and illusions that he had them himself, any more than Dr. Masson's surmise that he had been wounded in battle because he describes the feelings of a fallen combatant.

Scanning the poem with a careful eye Dr. Masson seeks to show the influence of the times upon the poet in his hostility to the religion of Rome. This has been generally thought by modern historians to be a thing of rites and public ceremonies, carried on by men who had already become sceptics. Dr. Masson, however, believes that the old religious belief still kept a strong hold on the great majority of the Romans, and that in his childhood Lucretius must have experienced the terrors of Tartarus and the superstitious fears of the interference of the gods in the ordinary course of nature, and public and private events. It was a time full of cruel wars, frightful massacres, and ruthless extortion and pillage from conquered nations; but these had no connection with religion.

As Bacon remarked, Lucretius when he beheld Agamemnon enduring the sacrifice of his own daughter, exclaimed "Tautum religio potuit suadere malorum." What would he have said if he had known of the massacre in France or the powder treason in England? He would have been seven times more Epicure and atheist than he was.

The Epicureans were never persecuted. They would never have refused, as the Christians did, to burn a little incense at the shrines of

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the gods. It is generally thought that Epicurus, in admitting the existence of the gods, while he allowed them no part in the creation and upholding of the world, merely did so to disarm hostility; but Masson holds that both Epicurus and Lucretius really believed in the existence of these idle gods, apparently on the ground that they found religious rites in all countries.

Dr. Masson covers the whole ground of Epicurean philosophy. The creation of the world by the fortuitous concourse of atoms, the nature of the soul, the origin of society, and the explanation of natural phenomena. His chapter on the life and writings of Epicurus, drawn from new sources, such as the inscriptions in the ancient town of Oinoanda in Asia Minor and the deciphered rolls of Herculaneum, does much to raise our estimate of the character of Epicurus.

Perhaps it is a natural enthusiasm for his subject which makes our author assign such a high place to the Epicureans as the scientific men of those times. It is evident, however, that Lucretius was an attentive observer of natural phenomena, but in geometry and astronomy the Epicureans were below the philosophers of other schools.

The notion of atoms, which Epicurus took from Democritus, appears in our text-books of chemistry, but it is the fact of definite combining proportions experimentally worked out by Dalton and Berzelius which makes modern chemistry hold together as a science. The existence of atoms is an assumption which some eminent chemists have doubted.

It is somewhat startling to learn that, while he believed the soul to be material, Lucretius admits the freedom of the will *fatis avolsa potestas*. Materialistic philosophies have been, in all times and in all countries, sometimes entertained in secrecy, sometimes openly avowed. Such views are rife in our own day, as Masson shows. There is a class of mind prone to accept such negations. Epicurus died 171 years before Lucretius was born in a different medium, and the great astronomer poet of Persia, Omar Khayyam, lived in the time of the first Crusades. Like Epicurus, he derided the idea of an after life, and thought the world a self-acting machine.

With the aids of the scientific writers of the day Masson goes over the whole scope of *De Rerum Natura*. He finds in it the outlines of Darwin's views on the struggle for existence and the survival of the fittest. He observes that Lucretius grasps the principle of inductive reasoning and the unchangeableness of the course of nature. Some of his absurdities, such as his doctrine of floating images, need no refutation; but the Epicureans correctly showed that illusions are founded upon a wrong interpretation of sensory images. Masson considers that Lucretius's attacks upon the religion, or the superstitions of the times, served to prepare the way for a purer Theism. He exposes the weakness of the Epicurean ethics, and shows that tranquillity alone will not satisfy the human heart.

Masson justly observes that *De Rerum Natura* is the only book in which the subject matter is science, but which still remains a poem. There is now no chance of another of the kind being written. Modern science and modern philosophy are of too close a texture to allow anything of the kind. What poetic fire and skill of expression could

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put in poetry the Scholia and Corollaries of Spinoza or the Categories of Kant?

But while the philosophy came from the Greek the poetry came from the Roman. The amazing skill with which Lucretius uses the resources of the Latin tongue to express his arguments in difficult controversies, the felicity of the illustrations which he draws from nature and human life, the beauty of his verse music, the sublime passages in which he soars to contemplate the frame and fate of the world and the sadness of human destiny, with the intense fervour pervading the whole, render this unfinished poem one of the most wonderful productions of human genius. We know of no other didactic poem which can be put near it save the Georgics of Virgil. Dr. Masson shows that Lucretius had a powerful influence upon the great poet who followed him.

The author in his analysis and critical remarks upon the *De Rerum Natura* shows a ripe scholarship and a refined poetic taste. We cannot give Dr. Masson higher praise than to say that his work is worthy of the subject.

WILLIAM W. IRELAND.

William Blake. By ARTHUR SYMONS. London: Constable, 1907. Pp. 433, 8vo. Price 10*s.* 6*d.*

William Blake will always be an interesting figure to the psychologist and alienist because he represents the essential qualities of genius carried to that extreme point at which the question of its sanity became a delicate and difficult problem to consider. The material for reaching a solution of this problem has never been so clearly and fully presented as in the attractive and important volume which Mr. Arthur Symons has lately devoted to Blake. Mr. Symons has adopted an admirable method. In the first half of the book he presents his own finely interpreted version of Blake's life and Blake's work; in the second half he brings together without comment, and for the first time in a fairly complete shape, all the first-hand biographical material on which every estimate of Blake must be founded. We are thus enabled to form an independent opinion.

An aboriginally independent person who lives in a world of his own, who creates his own ideas for himself, who comes to regard the facts of the external world as mere symbols of the inner realities with which he is chiefly concerned, is a person who undoubtedly has much in common with the ordinary inmates of asylums, and by the ignorant and unthinking is apt to be confused with them. For the journalist of his time Blake was "an unfortunate lunatic," and even Charles Lamb—a man of genius, who had once been insane, and thus well entitled to speak with authority—uses the word "madhouse" in connection with Blake. The "visions," also, which played so large a part in Blake's life, introduce an element which is legitimately regarded as suspect. But so far as can be ascertained these visions were not only not of a hallucinatory character, but they were in no way connected with any delusional ideas. Blake was much of a child, and his visions seem fairly comparable to those

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hypnogogic visions, more or less under control, which nearly all normal children can see on the curtain of the closed eyelids. Like a child, also, Blake would look for pictures in the fire, and sketch them, and this alone suffices to reveal the real character of his visions. "I can look at a knot in a piece of wood till I am frightened at it," he once said. But Blake was by no means really terrified at his visions; on the contrary, he carefully cultivated them for artistic purposes. In this he was following excellent examples and high authority. Piero di Cosimo, we are told, would gaze for hours at discoloured mud-bespattered walls in order to gain ideas for pictures, and Leonardo da Vinci expressly recommends the artist to adopt precisely this device as a source of valuable suggestions for work. It is true that Blake, being a mystic as well as an artist, treated these "visions" with much reverence, but he never confused them with the phenomena which the ordinary man regards as alone real. When the sun rose Blake might see the heavenly hosts arrayed in the skies, but he was perfectly well aware that you and I would only see a round yellow object rise above the horizon.

It may be added that in the ordinary conduct of life, notwithstanding his extravagance in the spiritual world, Blake showed no signs of insanity, and though sensitive, intolerant, and exclusive, as men of genius sometimes are, he was yet normal beyond most poets and artists. He was exemplary in his domestic life, an unceasing worker, a hard-headed man of business, and he left no debts at his death.

Dr. Maudsley wrote many years ago that if we may accept as true the story of Blake sitting naked with his wife in their arbour, reading *Paradise Lost*, he was certainly insane. Blake's friend Linnell discredited this story, and Mr. Symons thinks Blake had too much sense of humour for such an episode. Its possibility scarcely seems, however, entirely excluded. Blake had strong views on the propriety of representing the body in art as tanned by sun and air. Nowadays the sun-bath system is becoming established in all lands, and a born pioneer might well have been ahead of his time in this matter without losing his reputation for sanity or even for humour. Blake's contemporary, Benjamin Franklin, a republican like himself, practised nakedness on hygienic grounds, once, it is said, shocking a servant girl by absent-mindedly opening the door in this state, but no one has questioned his prosaic sanity. Shelley's friends, the Gisbornes, carried the same ideas into practice. Dr. Ungewitter, in a recent book devoted to the hygienic virtues of nakedness, goes so far as to present a portrait of the author at his desk clothed only in sandals, without, apparently, arousing suspicions as to his mental condition. The Blake incident is told as taking place in private, and if accepted would still show nothing in common with the random impulse of the insane to throw off their clothing.

It would be out of place to speak here of the literary qualities of Mr. Symons' work. The estimate of Blake's genius, especially in poetry, continues to rise, and that it has never stood so high as at present is clearly witnessed by this brilliant and beautiful book.

HAVELOCK ELLIS.

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Die Erkennung und Behandlung der Melancholie in der Praxis. Von Dr. TH. ZIEHEN. Halle, 1907. 8vo, pp. 67.

This monograph gives us a glimpse of the German psychiatry of the day, from which some useful knowledge may be gleaned.

Dr. Ziehen defines melancholia as a primary sadness or depression continued without any motive, or, at least, without any adequate motive. It is often accompanied by a retardation of mental processes. He distinguishes primary melancholia from the distress which sometimes follows the delusions of persecution. Primary melancholia may also be followed by delusions and hallucinations. Pure melancholia is commoner with women (16·4 *per cent.*) than with men (5·3 *per cent.*). It occurs at all ages, and especially between twenty and fifty. The most frequent of the predisposing causes of melancholia is heredity, sometimes by the father's, sometimes by the mother's side. After this come nervous affections in youth, as chorea, neurasthenia, and migraine. He allows little to alcohol as an exciting cause, more to exhaustion from lactation, or loss of blood. Generally there appears more than one cause; often the triad, hereditary disposition, over-exertion, and powerful emotion.

After explaining in a skilful manner the course of melancholia, its complications and its diagnosis, the professor devotes sixteen pages to the treatment. He has three main methods—rest in bed, opium and hydrotherapy. For the way his systematic treatment is carried out we must refer the reader to the pamphlet itself.

WILLIAM W. IRELAND.

Part III.—Epitome of Current Literature.

1. Neurology.

The Cortex Cerebri, its Volume and Nerve-fibres [*Die Grosshirnrinde in ihren Masse und in ihrem Fasergehalt*]. (*Jena*, 1907; *reported in Neurol. Cbl., Nr.* 15, 1907.) *Kaes, T.*

Dr. Kaes has studied the growth of the anatomical elements of the cortex from infancy to old age, and has illustrated his expositions by graphic curves and tables. He has found that the inner layer of the cortex increases and produces new fibres till it reaches a certain size. At the same time the outer mantle becomes thinner. The cortex which is most developed and richest in nerve-fibres is also the smallest.

Kaes has examined thirty-nine brains at twelve areas of the pallium, and his diagrams especially show the changes which the fibres undergo in the course of years. His illustrations also demonstrate that in the first months of mental development the tangential fibres keep up the paths of intra-cortical association while the outer mantle appears to be still without fibres. At the eighth month the outer layer of Baillarger, and then by degrees the whole outer mantle, becomes fully developed. The growth of the inner layer and of its nerve-fibres is completed by

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the nineteenth year, but the fibres of the outer layer keep on increasing until the forty-fifth year, and perhaps longer. Kaes is of opinion that the higher mental development of man cannot be realised without the co-operation of the paths in the outer layers of the pallium, while for the simpler class of conceptions the association paths of the inner layers are sufficient.

Kaes examined the brains of two microcephalic idiots and also that of a female dwarf, which weighed 1,373 grms. and had a corresponding convoluted surface. In spite of the great difference of weight and superficies, the arrangement and thickness of the big brain presented in the proportion of the fibres great analogies with the poorly developed cortices of the microcephales.

Kaes also examined five brains of delinquents, three of whom were habitual criminals who had been beheaded. Deviations from the normal structure were observed in them all, either an abortive development or a premature degeneration of the nerve-fibres.

WILLIAM W. IRELAND.

On the Longitudinal Inferior Bundle and the Central Optic Bundle. (*Nouv. Icon. de la Salpt., and Neurol. Cbl., Nr.* 13, 1907.) *La-Salle-Archambault.*

The author finds that the tapetum contains no association fibres; its fibres go with those of the corpus callosum. In the human brain there is no occipito-frontal association bundle. All the fibres which come from the posterior and under parts of the hemispheres to the pedunculus arise from the temporal lobe, especially from the second and third temporal gyri. These fibres go to join the fasciculus of Turck in the spinal cord.

WILLIAM W. IRELAND.

The Double Motor Apparatus in the Brain [*Der Doppel-motor im Gehirn*]. (*Neurol. Cbl., Nr.* 15, 1907.) *Adamkiewicz.*

Dr. Adamkiewicz begins by observing that the discoveries of Fritsch and Hitzig in 1870, while they showed that the muscles of the body could be set in motion by an electric stimulus applied to particular points in the brain, introduced an unfortunate error into science. The generally-received opinion that motor centres exist in the anterior portion of the brain cortex, while sensory areas occupy the posterior brain, he regards as erroneous. He finds that the frontal portions of the brain are concerned, not only with motor functions, but with all those mental operations which arouse or guide such motions, and that the occipital portions of the brain are not only concerned with vision but with all the motor functions therewith connected.

Adamkiewicz holds that the cortex cerebri is not separable into motor and sensory spheres, but has areas in which complex organic functions are represented. Within these areas conceptions take form, leading to revolutions and motions. He roundly states that the cerebral cortex is not motor. One can remove the whole cerebrum in an animal, the rabbit for example, without doing the least injury to muscular capacity. The attitude and movements of the body remain unimpaired after the removal of the hemispheres. The animal thus treated sits stiff and still, because his intelligence and will are lost, and therefore he is not in

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a position to originate. The fact that muscles may be set in motion by electric currents applied to the cortex does not prove that these areas are motor, but that they stand in a certain relation to the motions of the body, because the electric stream has the power of replacing the mental stimulus, especially that of the will.

He finds the true motor of muscular action in the cerebellum, upon which the impulses of the cortex operate like a pianist on the keys of the piano.

Adamkiewicz claims to have given sufficient evidence of the correctness of his views in some books,[1] which we have not had an opportunity of reading.

The cortex is exclusively the organ of the higher mental functions. In its passive state it produces dreamy images; in its active state and in full consciousness of the environment it evolves conceptions and resolutions leading to action. The will is thus, along with the intelligence, the product of the whole hemispheres, which discharge their functions through different portions having similar physiological capacities. Thus, though the grey matter of the brain is the seat of images, thoughts, and will impulses, it never sets agoing motions. For this purpose the mental impulses must be communicated to the cerebellum through the fibres of the corona radiata, and probably the crura cerebri. From the cerebellum they are sent into the grey anterior columns of the spinal cord. Anyone who has inquired into the functions of the cerebellum must have perceived that it is an organ of highly complex action, and that it is extremely difficult to define its functions from the results of experiments or the study of diseases. There is, as Adamkiewicz observes, another way by which the impulses of the will are transmitted to the spinal cord, that is through the corona radiata to the inner capsule, and the crux cerebri to the pyramids of the cord and the multipolar cells of the anterior columns. Adamkiewicz has no doubt that the will uses both ways at once, and that the two waves of innervation meet in the multipolar ganglion cells of the anterior horns to send their united strength to the last station of the motor mechanism; at the same time he allows for the cerebellum a regulating influence (tonisierenden Einfluss) upon the voluntary muscles.

Dr. Adamkiewicz found that after the insertion of laminaria within the cranium of rabbits, the pressure causes paralysis of the opposite side. In further experiments he made punctures designed to reach the deeper portions of the hemispheres, avoiding as far as possible injury to the cortex. The professor acknowledges that the results of these experiments were not so prompt and exact as he hoped. He believes that he has demonstrated that in the subcortical ganglia there are separate centres for the anterior and posterior centres of the opposite sides of the body. He finds the centre for the movement of the fore paw in the anterior portion of the optic thalamus, between it and the corpus striatum, and the centre for the hind paws in the posterior portion of the thalamus, between it and the corpus quadrigeminum. Injury to the corpus striatum itself does not cause any paralysis in the

[1] *Die Wahren Centren der Bewegung und der Akt des Willens* (Vienna, 1905). *Die Functions störungen des Grosshirns* (Berlin, 1898), besides papers in divers periodicals.

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rabbit. In conclusion he claims to have proved that the so-called Jacksonian epilepsy, consisting of convulsions of one side of the body, without loss of consciousness, has nothing to do with genuine epilepsy, being dependent on mechanical irritation of the motor centres within the substance of the cerebral hemispheres.

Compression of the cerebellum may be followed by half-sided paralysis, never by convulsions, which gives us an important aid in the differential diagnosis of intercranial tumours.

WILLIAM W. IRELAND.

On the Entrance of the Optic Tract into the Human Cortex [*Über den Eintritt der Sehbahn in die Hirnrinde des Menschen*]. (*Neurol. Cbl., Nr.* 17, 1907.) *Mayendorf, E. N.*

In the course of a discussion upon the distribution of the optic tract to the hemispheres, which can scarcely be reproduced without a literal translation of great part of his article, Mayendorf observes that clinical facts tell both against the view which would place the central projection of retinal impressions in the cortex of the occipital convexity, and against the view which would place therein a gathering point for visual memory through which the identity of seen images are realised. From the examination of a brain in which the corpus callosum had been destroyed, and another in which it had never appeared, Mayendorf came to the conclusion that the bundles of fibres which enter the two upper occipital convolutions are connecting fibres of the two hemispheres and not projection fibres. In fact there are few projection fibres in these occipital gyri. WILLIAM W. IRELAND.

The Loss of Function following on Lesions of the Central Nervous System [*Ueber die Ausfallerscheinungen nach Läsionen des Central Nervensystems*]. (*Neurol. Cbl., Nr.* 13, 1907.) *Rothmann, Max.*

Rothmann points out how important it is to surgeons that the localisation of lesions in the brain and spinal cord should be made with the utmost accuracy. In many cases diseases do not strike suddenly upon a nervous system previously intact. Often the circulation has been previously deranged by arterial sclerosis, which prepares the way for transitory hemiplegia or aphasia. Sometimes there is loss of function after central lesions, which disappears in longer or shorter time. Goltz and his followers have treated many effects following the extirpation of the whole or part of the cerebrum as due to what they call inhibition (Hemmung). Thus the functions of the spinal cord are much impaired after removal of the cerebral ganglia, or the lower portion of the cord loses its reflex function after section higher up, but after a while it again resumes its action.

The nervous system in the living being cannot be divided into so many organs acting independently of one another; the injury to one part reacts upon another, after a fashion which often renders efforts to arrive at a knowledge of functions by extirpation or local stimuli very difficult to interpret.

Munk has shown that after section of the upper spinal cord the reflex irritability of the lumbar portion almost ceases, to return from six to eight months after the operation and in greater measure than ever. To

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this abnormally heightened reflex activity he gives the name of alteration of isolation. The same phenomena in the functions of the cord, though in a lesser degree, follow injuries to the subcortical ganglia.

To explain such phenomena Monakow has proposed a theory to which he has given the name of "diaschisis." This he defines as a transitory division, or impairment (Spaltung) of a nervous function which follows injuries to a guiding or transmitting nervous tract or to a group of nerves, and which passes away, leaving behind some residuary loss of function. This theory seems difficult to apply, and further elucidation of it would demand the translation of several pages of Rothmann's article. The facts requiring explanation are of the following kind. After the removal of the lesser brain in a dog, the animal can move about when the first prostration has passed away. In the monkey, after the extirpation of one arm region, movements common to both arms begin the next day. After extirpation of the motor regions of all the extremities, the movements of the limbs return some days after, while in the human subject several weeks elapse before active movements return after lesions to the cortex. Recovery of motor power takes place earlier with young animals.

Rothmann has applied the researches of Monakow on the phylogeny of the nervous system to explain these late-coming restitutions. He divides the encephalon into direct and indirect regions, and other parts not therewith connected, which correspond to recent middle-aged and old areas. In the process of evolution the old organs are stunted in their growth, while the younger parts fall more under the control of the cerebral hemispheres, and suffer in their function when these latter are injured. But after the removal of the motor areas of the cortex they begin to resume their ancient independence. In animals of a less complex organisation the lower ganglia have never abandoned their functions to the hemispheres, and so the removal of the hemispheres is not followed by a marked loss of motor power. In the higher mammalia, the dog for example, the subcortical motor ganglia work under the influence of the cortical centres, but they retain so much of their old phylogenetic independence that they can exercise a motor function even after losing in great part the impulse of the cerebrum, and, indeed, according to Goltz, after the complete loss of it. In the monkey the rule of the cerebrum has become stronger, so that loss of the whole areas for the limbs causes more impairment to the functions of the ganglia. In man the cortex has gained full supremacy; all motor impulses come from it, so that after removal of the motor area there is complete paralysis, or at least any slight return of function requires several months for the lower ganglia to assume a feeble capacity. The same rising subordination to the higher functions of the cerebrum is shown in the reflexes. The patellar reflexes, which are weakened in the dog and ape after extended injury to the brain, generally disappear in man after apoplexy, to assume their functions with greater intensity under the action of deeper brain centres. But after injury to the middle brain, transitory cortex lesions become permanent.

Hitzig has observed that under favourable conditions the removal of a portion of the visual area of the cortex causes an inhibition of the activity of the lateral geniculate ganglia, and that after a lesion of the

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sigmoid gyrus, the region of the limbs in the dog, there is inhibition to the subcortical optic centres without any direct lesion to the optic centres themselves. Rothmann's experiments do not confirm this observation, but favour those of Munk. He observes, as in dogs, the experiments of Manque, Exner, and Paneth show that the cutting off of the sigmoid region the sensory area of the cortex destroying the association fibres has the same effect as extirpation of the area. It ought, however, to be noted that Exner and Paneth failed to keep the projection fibres uninjured.

The classical case of apraxy furnished by Liepmann has shown that extensive destruction of the association fibres of the motor region of the arm does not cause suspension of the function of the limb, the projection fibres of the said region remaining uninjured. It was shown by the dissection that through a subcortical abscess in the left frontal region the connections of the median convolutions were interrupted, while by another abscess under the cortex of the parietal lobe and by the complete disappearance of the corpus callosum the connections between the occipital and temporal lobes, as well as the connection with the whole right hemisphere, was broken off. The anterior median gyrus was found quite intact, the posterior one smaller, with diminution in the number of fibres, but no traces of inflammation. The projection fibres of the median convolutions were intact, save that they had been injured by a slight lesion in the posterior part about six months before death.

In this case, although there was a nearly complete interruption of the association fibres of the left extremity, there was not suspension of the motor capacity of the right arm, but an apraxy or awkwardness of action which has been thoroughly analysed by Liepmann.

In reference to the localisation of the speech centres which have attracted so much attention through the recent criticisms of Dr. Marie, Rothmann suggests that out of the numerous persons who are right-handed there may be a few people born left-handed who have been drilled into the use of the right hand for external actions, but in whom the centre for speech still holds to the right hemisphere, and also that in some persons the speech function may be more equally divided between both sides of the brain. This would explain the negative results which have been produced from occasional *post-mortem* examination to throw doubt upon the localisation of aphasia in the region of the left third frontal.

In this controversy, which so much engages the attention of neurologists, it appears to me the work of Sir Frederick Bateman on aphasia has been forgotten. The result of his study of the question, founded upon accurate observations, was that the localisation of a speech centre on the left frontal was "not proven." WILLIAM W. IRELAND.

On the Localisation of Mental Blindness [*Über die anatomisch-histologische Grundlage der sogen. Rindenblindheit und über die Lokalisation der kortikalen Sehsphäre, der Macula lutea und der Projektion der Retina auf die Rinde des Occipitallappens*]. (*Graefes Archiv f. Ophthalmologie, lxii; reported in Neurol. Cbl., Nr.* 15, 1907.) *Wehrli.*

Wehrli has made a careful study of a brain of a subject who had

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double hemianopsia. The clinical symptoms have been already described in the second edition of Monakow's *Gehirnpathologie*. The patient had total blindness, following an apoplectic attack, which remained constant on the left side, although on the right vision was so far restored that he could distinguish light from darkness. Central vision remained lost till death, which took place three months after the attack. There was found softening of the cortex in the neighbourhood of both calcarine fissures. Both occipital arteries were blocked after the origin of the temporal vessels. Microscopic examination revealed involvement of the medullary matter, so as to destroy the connection of the calcarine gyri (the cuneate and lingual?) with the convexity of the cortex. Wehrli considers that the optic radiation must also be injured, as it has the same vascular supply as the calcarine gyri. From a study of the whole literature of the subject, Wehrli believes that no pure cortical lesion in connection with hemianopsia has yet been observed. He considers that this case, as well as others which he cites, support the views of Monakow, who holds that the visual field, and especially that of the macula, is represented by the whole occipital lobe, including the posterior part of the gyrus angularis.

In reporting this case Liepmann remarks that it is now universally acknowledged that the fasciculus longitudinalis inferior contains many projection fibres, but it appears from Wehrli's description and plates that a considerable portion of this layer, as well as the frontal part of the inner sagittal layer, is intact, so that the optic paths to the gyrus angularies, as well as the first and second occipital gyrus is not interrupted. Why then, he asks, did central vision not return during the three months if the macula be represented on the convexity of the occipital cortex. WILLIAM W. IRELAND.

A Case of Left-sided Aphasia and Apraxia [*Ein Fall von Linksseitiger Apraxie und Agraphie*]. (*Neurol. Cbl., Nr.* 17, 1907). *Maas, O.*

Dr. Maas discusses a difficult diagnosis in a patient who suffered from paralysis of the right side, especially of the leg, with unconsciousness which lasted for two days, after which the faculty of speech was found to be injured and the intelligence much diminished. The paralysis passed away in two months, when he was found unable either to write spontaneously or to write to dictation with the left hand, although he could copy writing. The power of expression through signs was also impaired on the same side. The patient had always been right-handed. He could write well enough with the right hand, and speech was free, although the intelligence was considerably diminished. Thus what remained of the paralysis was entirely on the left side of the body. As there was paralysis of the right side in the beginning, Dr. Maas supposes that the lesion was in the left hemisphere. The difficulty is, assuming that there was one central lesion, to indicate a spot from which the affection both of the right and left side could result. He places the lesion about the anterior horn of the left lateral ventricle near to the nucleus caudatus, where the commissural fibres gather to enter the corpus callosum, thus injuring them in their passage to the right hemisphere and also injuring the projection fibres going to the right side of the body. As these latter recovered their

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function the lesion was supposed not to be extensive. This diagnosis does not explain the decided and lasting impairment of the intelligence.

WILLIAM W. IRELAND.

Organic Hemiplegia without the Babinski Symptom [*Ueber organische Hemiplegieen Olive Babinski*]. (*Amsterdam Congress.*) *Bychowski.*

In a paper read to the International Congress for Psychiatry at Amsterdam, Dr. Bychowski has shown that although the value of the Babinski symptom is now universally recognised, exceptions are met with which seem to lessen its pathognomonic importance. These exceptions, however, fall into a special group. In the cases of cerebral hemiplegia in which the phenomenon was wanting, we have to deal with affections implicating the cortex cerebri or its neighbourhood, as has been proved by trephining or subsequent *post-mortem* examination. In some cases of traumatic or spontaneous hæmorrhage into the brain substance where the Babinski sign was absent it was found that the bleeding and subsequent softening had affected the cortex. On the other hand, hemiplegias following upon tumour of the middle or inner brain were found to be constantly accompanied by the Babinski phenomenon.

Bychowski has observed that in cases in which the reaction had not been observed the reaction appeared shortly after operations in the cerebrum, because in the removal of the tumour or in plugging of the wound the adjacent white substance on the motor paths had been injured. On the other hand, after hæmorrhages implicating the inner capsule the Babinski phenomenon appears in a few hours. We may thus regard this symptom as a fine test for a lesion of the pyramidal tracts, and its absence in a hemiplegia not a proof of a simply functional affection, but an indication of a superficial lesion of the cortex and of the intactness of the pyramidal paths.

Bychowski also observes that in hemiplegia the abdominal reflex is absent in the same side as the paralysis, and here also the reflex is retained when the cortex is affected. Thus the absence of the Babinski sign and the presence of the abdominal reflex are of value in the differential diagnosis between functional and organic hemiplegias.

WILLIAM W. IRELAND.

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2. Physiological Psychology.

Psychology and Sexual Symbolism in Folk-lore [*Psychologie und Sexualsymbolik der Märchen*]. (*Psychiat. Neurolog. Wochensch., Nos.* 22–24, 1907.) *Riklin.*

In this series of articles Dr. Riklin presents a summary of a forthcoming book in which he proposes to apply certain of Freud's ideas to the explanation of folk-lore and fairy tales. Freud believes that a large proportion of our dreams represents in a symbolic form the gratification of wishes, often of a more or less sexual nature, experienced during waking life. This theory, at all events in the extension given to it by Freud, is disputed by many. Riklin, however, believes that it corresponds

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to a general tendency of thought when left to itself. In poetic production, he argues, we may see the impulse to realise those things which actual life denies us. In psychoses such as general paralysis we observe the same thing. The compositions of spiritualistic mediums are of similar character. Legends correspond to our dream-life, as thus conceived, and to the conceptions of insanity. In illustration Riklin traces the history of the snake as it occurs in folk-lore as the sexual rival of the hero or heroine; he regards the snake as a sexual symbol alike in the dreams of healthy persons and the ideas of the insane. He then proceeds to discuss similarly some other groups of legends. The existence of sexual symbolism in folk-lore is indisputable, but it can scarcely be said that Riklin's development of his thesis is at the present stage very convincing. HAVELOCK ELLIS.

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3. Clinical Neurology and Psychiatry.

Early Diagnosis of Multiple Sclerosis. (*Med. Klinik, No.* 36, 1906.) *Kurschman.*

He notes that Babinski's sign is an early symptom along with increase of tendon reflexes. The abdominal reflexes are often absent.

WILLIAM W. IRELAND.

Late Epilepsy [*de l'Épilepsie Tardive*]. (*Gaz. des Hop., September 12th,* 1907.) *Marchand, L., et Monet, H.*

Although there is considerable diversity of opinion concerning late epilepsy, the majority of writers are agreed that: (1) Epilepsy may be described as late when it manifests itself after thirty years of age; (2) it has the same symptomatology as idiopathic epilepsy; (3) it is generally in relation with cardio-vascular degeneration, arterio-sclerosis, cerebral lesions, alcoholism, phenomena of auto-intoxication.

The authors contend that epilepsy should always be regarded as symptomatic, and that in every case the lesions of chronic meningitis and superficial cerebral sclerosis are to be found. As regards this point no distinction is to be made between late and idiopathic epilepsy. The late variety owes its rarity to the fact that lesions in the adult brain seldom cause convulsive phenomena, whereas it is well known that the child's brain is peculiarly susceptible in this respect. Late epilepsy is rarely to be attributed to atheroma of the cerebral arteries; in cases where this condition is present, a careful histological examination will almost always demonstrate the co-existence of the lesions mentioned above. BERNARD HART.

Dementia [*L'affaiblissement Intellectuel dans la Démence Précoce, la Démence Sénile, et la Paralysie Générale*]. (*L'Année Psychologique,* 1907.) *Masselon, R.*

A comparative study of the three most important varieties of dementia. The conclusions reached may be resumed as follows:

Dementia præcox is essentially characterised by a primary lesion of the affective faculties, by indifference, apathy, and aboulia. Volitional

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activity is not only enfeebled but may be perverted; hence the development of negativism and various automatic phenomena, *e.g.*, impulses, motiveless fugues, and stereotypies. The relating function of the mind is disturbed and incoherence is thereby established, but the mental elements are preserved comparatively intact, and do not disappear until the dementia is very profound. The patient's mental facts seem dislocated, affected in their order of appearance, but new mental facts can be acquired, and old ones can be recalled.

Senile dementia.—Here the disease affects primarily the mental elements, while the relating activity is comparatively normal. Memory is markedly affected and the number of available mental images is much diminished, but association proceeds along normal lines. The patient has preserved the framework in which the thoughts develop, but he has lost the faculty of acquiring new images, and that of recalling the images and notions which experience has accumulated in him. Hence in this case we have cohesion but diminution of material, whereas in dementia præcox we have relative conservation of material but disordered cohesion. The senile dement is morbidly emotional, and the prevailing affective tone is one of depression.

General paralysis is variable in its mental manifestations, and cannot be efficiently described in general terms. As a rule, however, it is characterised by a diminution in the memory power with a progressive failure of the associative function. But while the cohesion is less than in senile dementia the conservation of material is less than in dementia præcox. Brusque changes of affective tone occur, varying from depression to expansion, but some degree of euphoria is certainly the most common. BERNARD HART.

Arson in Hysterical Somnambulism [*Une Hysterique Incendiaire pendeni l'etat Somnambulique.*] (*Arch. de Neurol., August*, 1907.) *Cullerre.*

The rarity in medico-legal literature of references to pyromaniac impulse in hysterical somnambulism has led Dr. Cullerre to record this interesting case. The patient was a married woman of neuropathic stock, whose health had deteriorated under the influence of excessive child-bearing and uterine disease aggravated by morphinism. When æt. 28 she developed hystero-epilepsy with moral perversion, and was certified insane. She remained under treatment for two years, during which period she presented, in addition to a multiplicity of neurasthenic and hysterical symptoms, various somnambulistic phenomena. These latter took the form sometimes of attacks of maniacal excitement, sometimes of hallucinatory phases with suicidal and other impulses, sometimes, again, of prolonged periods of altered personality. A peculiarity of these somnambulistic phases was that they allowed the emergence of fixed ideas which were latent in the intervening periods of relative health. This was shown strikingly in the patient's correspondence; letters begun in the normal condition and written in calm and coherent language, if continued in the dream-state were filled with threats of suicide and of vengeance to be wreaked on the patient's relatives by poisoning them, or more insistently by burning their property. The patient's mental health eventually improved enough to allow her to be sent home, where she remained apparently well for seven years. She

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then went back to the morphia habit, and had a recurrence of the same hysterical and somnambulistic symptoms as in the previous attack. During one of these phases of dream consciousness she set fire to the farm of her father-in-law, who had been the special object of her antipathy during her delirious attacks.

Commenting on the case, Dr. Cullerre draws attention to the remarkably long interval—nearly ten years—intervening between the appearance of the pyromaniac obsession and its realisation in the criminal act. W. C. SULLIVAN.

Tumour of the Pituitary Body with Röntgen Photograph [*Fall von Hypophysis Tumor mit Röntgen-Photogramm*]. (*Neurol. Cbl., Nr.* 18, 1907.) *Schuster.*

It is a signal triumph that through the discoveries of physical science we can obtain a visible representation of what is going on at the base of the brain. Dr. Schuster first saw the patient whom he describes on March 25th, 1907. He was a man, æt. 33, who had suffered from diminution of vision for three years and from headache for about two years and a half. The sight of both eyes was now entirely lost. There had been hemianopsia. The patient remarked that during the last year his gloves had become tight, and his rings did not fit. There had been frequent vomiting during the preceding months.

On examination the skin appeared pale and dry as in myxœdema; hair in axilla and pubis scanty. Nose somewhat enlarged. There was divergence of the left eye, and the light reaction was diminished, but more so on the right. There was atrophy of both optic nerves. Mentally the patient was in a state of indifference, and easily wearied. The diagnosis of tumour of the pituitary body with symptoms of acromegaly was confirmed by the Röntgen rays. This is illustrated by two engravings, one giving the normal appearance of the sella turcica, the other of the case in question showing the sella enlarged to three times the usual size and the hollow altered in form. Dr. Schuster explains that the engraving is but a faint reproduction of the Röntgen photograph, which may well be.

In the same number of the *Centralblatt* Dr. Ludwig Löwe, of Berlin, discusses the methods of removing tumours of the pituitary body, which he holds may best be done through the nasal passages.

WILLIAM W. IRELAND.

Maniacal Chorea. (*Dublin Journ. of Med. Sci., May*, 1907.) *Finney, J. Magee.*

The patient whose case is here described as suffering from this rare disease, chorea insaniens, was an unmarried girl, æt. 17, whose occupation is not stated. She suffered from rheumatic pains in her legs for a fortnight, upon which chorea supervened. A mitral systolic murmur audible on admission and of varying loudness was present until her death, which occurred nine days afterwards. The pulse was quiet and regular until the last three days, and her temperature normal or subnormal until the day before her death, when it rose to 103·4° F.

The choreic movements were slight for about forty-eight hours, after which they became extremely violent. The psychical phenomena were

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prominent, out of all proportion, and at first quite overshadowed the motorial. They differed, however, by the absence of incoherent speech, and wild garrulity, from the forms one is accustomed to associate with the acute delirium of fever or acute mania. Up till three days before her death she would occasionally grow calmer for a little time, understand what was said to her, and answer "yes" or "no" intelligently. Drugs had no effect on the course of her disease, but chloral proved the most useful in securing a few hours' sleep and muscular rest.

The autopsy revealed a small quantity of mixed clot in the longitudinal sinus, engorgement of the vessels of the cortex, a very small amount of fluid in the lateral ventricles, thrombosis of some of the small vessels of the cortex in the Rolandic area; while in others, cells with oval nuclei lay heaped up in the perivascular lymphatic spaces, which also contained clumps of broken-up nuclear material.

The spinal cord and the other organs of the body were normal, except the heart, which was very atrophic, and some calcified tubercular glands in the mesentery and root of lung. Careful bacteriological examination of the cerebro-spinal fluid yielded negative results, and no micro-organisms were found in the meninges on section. The author regrets that so many standard works of reference on medicine and on insanity do not mention maniacal chorea at all, or else give a very short description of it.

He thinks that the embolic theory as causative of any form of chorea is no longer tenable, but that all choreic manifestations must be recognised as due to the presence of a toxine.

He quotes the conclusions arrived at by Poynton and Holmes that, in the first place, chorea is a manifestation of acute rheumatism, and secondly, that the *Diplococcus rheumaticus* is the infective agent in acute rheumatism.

He admits that his own case does not exactly add support to these views (which he apparently shares), as no micro-organisms were found on bacteriological examination of the brain and spinal cord.

A. W. WILCOX.

Visual Hallucinations on the Blind Side in Hemianopsia. (*Medicine, July*, 1906.) *Burr, Charles W.*

After referring to those cases exhibiting the above condition already recorded, the author proceeds to describe the case of a white man, æt. 20, admitted to his wards in the Philadelphia Hospital in March, 1906, complaining of severe headache and blindness on the right side and of seeing devils, angels, and bright lights in the blind field. He knew that the objects seen were unreal. They were not persistent, but came and went. Sometimes they appeared for only a minute or two, sometimes remained for hours. They were never visible on the left side. They were small, sometimes movable, sometimes stationary. They first appeared several months after an attack of unconsciousness occurring in July, 1905, which attack was preceded by sudden illness and vomiting. He was unconscious for a short time only and then became delirious, and on the following day stuporose, in which condition he was admitted to the Episcopal Hospital. He could be roused, and when roused became confused. Light disturbed him.

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There was no paralysis of the arms, legs, face, or ocular muscles. His pupils were unequal at times, the right being the larger; both reacted to light. His reflexes were normal, and his control of sphincters unimpaired. Kernig's sign was present for a short time, about a week after admission. On ophthalmoscopic examination hyperæmia of the retina was found, more marked in the left eye. Five days later neuro-retinitis was present, and there was general hyperæmia around the disc in both eyes. The left eye in addition showed a retinal hæmorrhage in the periphery in the lower temporal region. Six days after this examination his mind was clear and he talked better. A further examination seven weeks later showed the typical appearance following a marked neuro-retinitis, and he was discharged next day as much improved.

He had a right homonymous hemianopsia, but the date when this fact was discovered is not stated in the notes. When examined by Burr this was the one prominent symptom. Slight slowness of thought was the only mental symptom shown by patient. The author believes that there was probably a gumma or specific arteritis (the man had a clear history of infection and bore treatment well) somewhere in the occipital lobe, the presence of optic neuritis pointing rather to its being a massive gumma. He thinks that the higher visual centre, on the convex surface of the occipital lobe, was either itself, or the white matter underlying it, slightly diseased or else merely pressed upon.

A. W. WILCOX.

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4. Sociology.

The Question of Responsibility. (*Rev. Neurol., August*, 1907.) *Ballet, etc.*

At the recent Congress of French Alienists and Neurologists held at Geneva and Lausanne, the much-debated question of the proper attitude of medical science towards the metaphysico-legal idea of "responsibility" received full and interesting discussion. Professor G. Ballet had been appointed to prepare a report on "The Question of Responsibility." In accordance with the opinions which he has always consistently maintained, Ballet concluded that the question is outside the medical domain. A number of speakers, notably Joffroy, supported Ballet. Grasset, of Montpellier, disagreed, but he admitted his dislike of the use of the word "responsibility." By a large majority the Congress affirmed its agreement with Ballet's proposition that, since questions of responsibility are of a metaphysical and juridical order and outside the physician's competence, a judge is not entitled to demand the physician's opinion concerning them. This decision marks a real progress of opinion, and seems to indicate that the clear-headed genius of France is taking the lead in putting an end to that illegitimate subserviency of medicine to antiquated legal metaphysics, which has often proved so disastrous in weakening the authority of medical science.

HAVELOCK ELLIS.

Sexual Hygiene in France [*L'Abstinence Sexuelle*]. (*Prog. Méd., August–September*, 1907.) *Léal, Foveau de Courmelles, etc.*

The various problems connected with sexual hygiene in relation to

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mental and general health have recently begun to be agitated in France, though their discussion has so far revealed wide discrepancies of opinion as well as a considerable amount of prejudice against any discussion at all. This has been well brought out lately in various communications to the *Progrès Médical.* Guy Léal, a pronounced advocate of the necessity of the sexual education of youth, introduces the question afresh by giving a summary of a recent collection of opinions from prominent German physicians regarding the results of sexual abstinence. He recalls that though Pflüger refused to reply because youth is not amenable to arguments in favour of complete sexual abstinence, a large number emphasised the harmlessness of abstinence. Many counselled a wise limitation of sexual commerce, and Strümpell advised early marriage, and in its absence regarded masturbation as a less harmful alternative than prostitution. In this connection Léal mentions that recently when the question arose of a course of lectures on sexual hygiene to the students of the Paris University, the medical professor ("well known for his plain speech") who was asked to deliver the course told the Rector that he should call a spade a spade, and would advise his young hearers rather to resort to masturbation than to run the risk of contracting syphilis or even gonorrhœa. The Rector was shocked and the proposal fell to the ground. Léal himself, though not out of sympathy with the plain-spoken professor, considers that the physician is going outside his social *rôle* in preaching either sexual intercourse or sexual abstinence. "What he has to do in this matter, and it is sufficient, is to teach sexual hygiene and the sexual education of youth with perseverance and without ambiguity."

In a subsequent number Foveau de Courmelles is aroused to a vigorous assault on the evils of masturbation. He thinks that Tissot's famous book on onanism is far from exaggerated (which suggests doubts as to his acquaintance with that manifestation of exuberant rhetoric), and he declares that he "does not fear to affirm that onanism is worse than gonorrhœa or even syphilis." He is entirely at one with Léal as to the necessity of teaching sexual hygiene, and mentions that he was one of the authors of papers on this question prepared for the recent Congress of Educational Hygiene in London, where English "pudibonderie" was careful to place the question in the background. "Sexual education is, however, necessary in all countries, but one must know how to carry it out."

The difficulties and prejudice on the part of the lay mind which such education still meets with in France are well illustrated in the same number of the *Progrès Médical*, in an article discussing the enlightened recommendations of the Commission Extraparlementaire du Régime des Mœurs in favour of giving instruction in sexual hygiene by medical lecturers to the higher classes in all lyceés, colleges, and popular universities under Government control. Various examples are brought forward of the reception given by the French middle-class authorities to the unofficial attempts at present made to impart instruction in sexual hygiene by the Société Française de Prophylaxie Sanitaire et Morale (with the support of leading medical authorities), and of the lofty moral indignation with which even the mayors of large Paris *arrondissements* sometimes receive a request to lend a municipal building for a lecture

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on the perils of prostitution and of venereal disease. The veteran Fournier is devoting his immense energies in old age to popular propaganda in this direction, and the distinguished medical dramatist, Brieux, has written a famous play, *Les Avariés*, which is as remarkable for its salutary lessons as for its poignant dramatic art. But it is evident that, on the whole, France, though ahead of England on this question, is still far behind Germany, where the principle of instruction in sexual hygiene is not only widely accepted, but is now beginning to be carried out systematically in many great urban and educational centres.

HAVELOCK ELLIS.

Asylum Reports issued in 1907.

Some English County and Borough Asylums.

Carmarthen.—We read with considerable surprise some very trenchant remarks made by the visiting Commissioners in their report. They regret to find that many matters requiring attention have remained neglected for years because of the dispute that rages between the authorities contributing to the asylum. Among these is mentioned the absence of any proper system of drainage. The Commissioners record their opinion that by this neglect of the above and other things the interests of the asylum and the patients suffer to a considerable extent, and that the condition of things is not creditable to those responsible. But far more serious, in our opinion, is the record, "It does not appear from the entries of visits that two or more members of the committee have visited the institution on any one occasion during this year." Some of us think that the best chance of solving lunacy difficulties lies in relaxing some of the cast-iron precision of the lunacy law in favour of increased liberty of experiment and exploitation on local initiative. How this can be conceded when the Commissioners have to whip up committees to carry out the very first essential of their being it is impossible to see. The actual facts, however, suggest that the cast-iron precision of the lunacy law, inconvenient in many important matters, is not of much value where it is particularly wanted. We note that considerable use has been made of electric baths, but no report of the results is given.

Cumberland and Westmorland.—We entirely endorse the following remarks of Dr. Farquharson:

> In the case of patients who have been known at one time to be suicidal, it is always a grave responsibility to decide when to withdraw the special supervision, but the decision has to be made for two reasons; the number of suicidal cases is constantly being added to by fresh admissions, and if this class is allowed to increase in number indefinitely, the special precautions for suicidal cases lose their value; on the other hand, infinite harm may be done to curable cases, and their chances of recovery lessened if the idea that they are the object of constant distrust is kept too prominently before them, and if their personal liberty is too much restricted when improvement has set in. Risks have to be run sooner or later, and our immunity from accidents of this kind for several years is proof that they are not run unduly. Better many recoveries with an occasional accident than few recoveries with even then the possibility of accident.

Derby Borough.—Dr. Macphail finds that out of 660 cases discharged

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recovered, 20 *per cent.* were relapses. The average period of relief in the cases readmitted during the year after discharge on recovery was six years and two months. We again express our opinion that it is a pity that this latter average is not more constantly worked out. Obviously in dealing on broad lines with the probable requirements of a district, it must be of value to know that the incidence of a given quantity of fresh insanity probably entails a reappearance after discharge of a proportion at any estimated time. From the scientific point of view, too, some forecast as to the probable amount of respite is necessary. It is a point that might well have received treatment from the Statistical Committee.

Dorset.—The incidence of insanity in this county appears to be at a standstill for the time. The fresh admissions were less in number than in the preceding year. The number of private patients increases, the rate of payment being between 10*s.* 6*d.* and £5 per week.

Glamorgan.—The sad death of Dr. Stewart naturally supplies the first subject of remarks in the reports of both the visiting committee and Dr. Finlay, the latter especially bearing testimony to his deceased friend in well chosen terms. It is fortunate that the Committee could call on yet another officer of over twenty years' tried service to take up the command. We wish Dr. Finlay all success in his heavy responsibility. Here, too, the rate of increase in population seems to be lessened, while the admissions are but three more than in 1905. Glamorgan as a county has 1 insane patient in each 415 of the population, against 1 in 283 for the kingdom. A decrease in alcholic causation is noted. The following figures afford food for reflection:

	Males.	Females.	Total.
General paralytics admitted . .	38	4	42
Venereal disease predisposing . .	1	3	4
" " exciting . .	—	2	2

Hereford.—It was found by Dr. Morison that among the male admissions 29 *per cent.*, and among the females 40 *per cent.*, exhibited cardio-vascular disorder, accompanied in the latter sex by a large proportion of glycosuria or goitre. The latter existed in a third part. The question of ætiology is put aptly:

> Our strenuous endeavour to obtain on admission as complete a history as possible can only be forwarded by the intelligent co-operation of those whose duty it is to obtain facts correctly at the time and place the patient is seen, and where his antecedents are well known. Guardians, relatives, and relieving officers have in this matter a real responsibility to discharge towards the patient sent to the asylum. The complete family and personal history is a *sine quâ non* to the proper treatment of "insanity." Insanity is not a definite disease, it is a mere term; it does not describe the conditions or factors causing the disorder.

In connection with this we note that the Committee refer approvingly to the new registers of the Commissioners and to the Association Tables. Referring to the evidence of Mr. Davy before the Commission on the Feeble-minded Dr. Morison argues, correctly we think, that if unification between asylum and workhouse care of the insane is to lead to one body having the supreme charge, that body should not be the Local Government Board as desired by Mr. Davy, for the reason that the Poor Law entirely lacks the elasticity and enterprise which characterises the evolution of the asylum.

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Kesteven.—We note with satisfaction that the committee arrange that in addition to the ordinary meetings two visitors shall attend, not only to inspect patients, but to discharge those who have recovered. It always has seemed to us absurd, if not indeed harsh, that a patient, if he misses the one monthly chance of discharge, should have to wait till another comes round. Why the discretion of discharge that is given to the medical superintendent of every other form of institution should be withheld from the heads of public asylums is not evident. In this direction, as well as in the power of sending patients on trial, even with the power of granting the allowance so often given now, much more elasticity is required.

Lancashire, Prestwich.—Dr. Percival speaks caustically, but not a whit too caustically, about the prevention of insanity by regulating Nature.

In this, our own county of Lancashire, such attention has been recently strongly in evidence. So much so, indeed, that some members of the special committee appointed to consider the question were prepared to adopt the very strongest measures, such as castrating the males and spaying the females. After a considerable amount of deliberation and discussion by this committee and the medical experts from their various asylums, the difficulties only seemed to get greater, and some members were undoubtedly disappointed that a workable scheme could not be produced forthwith.

Most people, I take it, would be thoroughly in sympathy with any measure or measures that showed a reasonable prospect of success. But this prospect must be definite. There must be no mistake about it. Not before can we expect the people to sanction laws that would place such extraordinary powers in the hands of those deputed to administer them. For instance, the regulation of marriage, that is, the restriction of unions between the unfit. Who shall determine the unfit? Children by unsound parents, whether mentally or physically so, do not always inherit their parents' defects, or suffer from allied diseases. On the other hand, children of sound parents may become afflicted. I am not at all sure that man has been particularly successful where he has taken selection into his own hands. Look at horses, cows, dogs, pigeons, etc. A sound horse seems a difficult thing to obtain, most of the cows are tuberculous, and the dogs, pigeons, etc., seem to have few added merits outside the artificial standard of the show.

He seems to think that Nature is not going to be baulked. She will see to plentiful reproduction, leaving it to elimination of the unfit to put matters right. We in our turn do our best to defeat elimination by succour and protection. We have always thought that one danger of regulating production by selection is that if any bar is put on the legitimate satisfaction of lawful desires among the great mass of the people, then these desires will be satisfied without authority, this occurring the more readily amongst those who come under the ban of unfitness. The offspring of such alliances will have superadded to heredity many of the worst risks of environment.

Leicester and Rutland.—Dr. Stewart anticipates the new statistical scheme in giving the causes of the insanity in those who have recovered. It is remarkable that while in the admissions six males and one female are attributed to alcohol, only one male appears in the recovery. Of course, it does not follow that the seven admissions will have this poor chance of recovery, but it would seem that drink in Leicester does not supply the evanescent attacks of insanity with which it is commonly credited. Writing of the unnecessary sending of senile patients to an asylum, Dr. Stewart instances a case, æt. 80, which was brought because

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she bit the nurses in the workhouse. On examination it was found that she had not a tooth in her head.

We have received an elaborate description of the new asylum at Narborough. This is being taken into occupation now. The plans show much evidence of careful thought, and we can see that in many respects the best points in successful asylums have been worked in here. We imagine that, in spite of the outcry in favour of economy, the day of the barrack asylum has gone. Plenty of room and a sunny aspect for all wards are good investments. These are to be found at Narborough, and we congratulate Dr. Stewart on having a first-class institution. The system of heating is by low-pressure steam. For ventilation, the patients' blocks are furnished with the Nuvacuumette system, the radiators being entirely inside the wall with access doors. There are thus no pipes, etc., in the rooms. In the hall the system is the Plenum.

London City.—Dr. Steen expresses his satisfaction with the assumption, for all but statutory purposes, of the title of "mental hospital." We agree with him. The private element is becoming of increased importance, this class of patient nearly equalling the rate-paid. We note that the payment is the same for all—£1 1*s.* per week. The receipts from the relatives are nearly double those received from the rates. As the weekly maintenance rate is about 12*s.*, the excess of 9*s.* would appear to be a very moderate sum to meet extra treatment and rent. Of course, the large number of such patients would enable things to be done with relative economy, but after making all allowances of the kind it would appear that all that a county can be called upon to do for its insane of the lower middle classes can be reasonably well done for one guinea.

London County.

For the first time in their existence the Committee are enabled to report an actual decrease in the number of patients under asylum treatment, there being thirty-seven less on April 1st than on January 1st of 1907. No great weight is attached to this, as it has been found before that a preternaturally large increase has occasionally followed a sensible decrease. The committee think and hope that, as the density of population and the area of the county have their limits, the time is coming when the high-water mark of resident population must be reached, and this must have some effect on the bulk of lunacy to be dealt with. In relation to the alleged increase in occurring insanity, the well-known conclusions to which Mr. Noel Humphreys has come in regard to all England have been applied to the county, where ample means of investigation are available. The results are in favour of the idea that actual increase of the disease as occurring cannot be substantiated, the increase in actual numbers being due to accumulation, a shifting of patients, who would have formerly been at home or elsewhere, into the asylum, and, finally, to an extension of the qualifications for admission thereto. As to the accumulation the evidence seems to be quite conclusive. The first three years and the last three years of the County Council's assumption of responsibility for the asylums were taken, and it was found that if the average rate of increase for the former

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had been preserved in the latter 2,083 fewer beds would now be required. This state of matters was not confined to the county's asylums, but was found, though to rather less extent, in the patients taken to the Metropolitan Asylums Board institutions. The accumulation, of course, depends on the recovery and death-rates falling behind the admissions. Another fact in aid is that the mean age of patients at the end of the years for 1891–1894 was 45·8 years, while for 1903–1906 it was 47 years. Yet again it was found that of each 1,000 patients there were found on the average during the same period 271 over 55 years of age in the former and 307 in the latter. From the copious tables furnished it would appear that the opening of Long Grove Asylum would afford almost sufficient room for all the patients for whom the committee is responsible. Accordingly the committee propose to hold its hand in the matter of providing its eleventh asylum.

In view of the probable reporting of the Commission on the Feeble-minded, no further steps have been taken about the proposal to institute receiving houses.

Having found considerable difference between their asylums in amount and details of expenditure, the committee has instituted the plan of preparing each quarter graphic tables showing the variations, which are to be circulated among the medical superintendents. The latter are to take whatever steps may be necessary in regard to differences. This appears to be a most practical idea, which has the merit of defining the powers of those on whom the responsibility is fixed.

The scale of pay for attendants and others has been revised. The new scheme involves the abolition of the £2 good-conduct money. As a similar amount has been added to the wages there is not much to say, but we think that the committee are hardly justified in stating that the whole object of the grant was to provide means for dealing with minor offences. Our impression is that, in most places at least, the idea was to provide means for rewarding continuance of good behaviour solely. It is rather repugnant to the general idea of an attendant's worth that it should be assumed that he would go wrong in small matters.

Before going into details of the various asylums and departments we wish to renew our appreciation of the immense care and earnestness on the part of the committee and its superior officers that is evidenced by this huge report. Perhaps it would not be inappropriate to say that we noted with the greatest satisfaction that during all the recrimination accompanying the last County Council election not a word was uttered, as far as we know, in disparagement of the committee's work, and this notwithstanding the great demands made by the asylum on the ratepayer's pocket.

At *Bexley* the male acute hospital has been finished and brought into operation. One feature is the provision of a large solarium. There are no fences, the only boundary being a planted mound. As usual Dr. Stansfield furnishes an extensive sheet showing the correlation of causes in the admissions, to which we shall make reference again. He treats the principal and associated causes of death much in the same way. It is somewhat astonishing to read that among the male admissions syphilis was a principal factor in 37 *per cent.*, while in the females it appeared in 11 *per cent.* The general paralytics formed 13·6 *per cent.* of the male

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and 2·1 *per cent.* of the female admissions. Evidence of syphilis was afforded in 91·8 *per cent.* of the males and 66·6 *per cent.* of the females admitted.

Claybury.—Dr. Robert Jones reports that a female patient, described on admission to be suicidal and under electrical delusions, was ordered by the Commissioners to be discharged after eighteen days of detention, the certificate not being considered to contain facts indicating insanity warranting detention. No more was heard of her. He points out that in his admissions the male clerks and persons of no occupation formed a disproportionately large part. On reference we find that this is the case in most of the other London asylums. In both the county average is much in excess of the ratios last published by the commissioners for the whole kingdom. The assignment of heredity was found to be justified in a high ratio, while alcohol appears in 29 *per cent.* of the histories.

Colney Hatch.—Dr. Seward mentions a heavy epidemic of colitis, sixty-eight patients being attacked, with a mortality of 27 *per cent.* He adverts to a veritable plague of flies which arrived and was prevalent during the two months of the greatest severity of the dysentery. There was a large collection of town refuse not far from the asylum grounds, and as the flies suddenly disappeared when the cold weather came on, the colitis subsiding at the same time, and as the disease was spread very widely over the wards he had a suspicion that the flies helped to disseminate the disease.

Hanwell.—Nearly 20 *per cent.* of the admissions were admittedly heavy drinkers. We assume that this way of putting the matter, which is practical, excludes the cases where drinking was an accidental or a symptomatic occurrence. If all returns of alcoholic causation were differentiated on this basis they would assume real value. There was a family history of drink in about 16 *per cent.* Syphilis was found in 44 *per cent.* of the male general paralytics, and in four out of the five female patients suffering from the same disease.

Horton.—After an interval of four months, during which Dr. Stansfield took charge temporarily, Dr. Lord entered into supreme command of this asylum, and we wish him all success. We recognise in his report yet another useful channel for the dissemination of valuable observations on the scientific facts which must pass before the eyes of the superintendent of a large institution. He maintains that the married people among the patients have much the best of matters. Fewer, in comparison with the population, stated according to the civil state, were admitted, while of those admitted the married were discharged recovered in the ratio of 22 *per cent.* as against 12 of the single. The similar proportion for all the London asylums was 34 and 27 respectively. We incline to think that Dr. Lord is right in the way he views the questions raised by increasing brain degeneracy:

> I cannot range myself with those who take up an extreme alarmist's view regarding the stated increase in lunacy; yet statistics show the situation to be one which calls for serious consideration. It should be remembered that insanity is not the only waste product of the social machine; there are others which complicate the problem, such as criminality, chronic alcoholism, epilepsy, vagrancy, etc. These have not given rise to such drastic proposals as in the case of the insane. As regards the latter, various remedies have been advocated to prevent

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contamination of future generations; some crude, and morally bad, such as the lethal chamber; others more humane, like sterilisation, and segregation in colonies. All states of degeneracy are so much allied that a remedy which deals with one and not with all is of only partial benefit. The proliferation of degeneracy in its widest sense calls for some preventative measures. But it is practicable; and, if successfully undertaken, would the problem be solved? I am not too sanguine, though I should be sorry to discourage efforts in this direction. The real fault lies with the social machine generally, and, although by-products are always to be expected, yet much could be done by hygienic and educational reform.

We note that he, in common with Dr. Stansfield, regards general paralysis as an ætiological factor of insanity, and each returns a proportion of cases as having this relation. From time to time we have dissented strongly from this position, and we see no reason why we should alter our opinion on the point. There is this difference between them. Dr. Stansfield states the factor as general paralysis of the insane, while Dr. Lord uses the definition of "the lesion of general paralysis." We cannot see how a *paulo post futurum* symptom can under any name become a cause. If, on the other hand, general paralysis is regarded for this purpose as a symptom-entity, the cause and the disease caused are one and the same thing. If, once again, Dr. Lord's rendering is intended by both, why should we not talk of the cause of mania being the lesion of mania? We know no more of the exact lesion ætiologically of mania than we do of that of general paralysis. In any case the assignment of a lesion as a cause must commit one both scientifically and practically to an attempt to assign the cause of the lesion itself. We think that perhaps it might be defensible to assign the actual existence of paralysis as an associated factor if we could define and name a disease, having a morbid psychology of its own, which could be demonstrated to occur with or without paralysis. But then this, if it were possible, would be doing away with the one entity that promises some day to be capable of a reasonable pathology, and which might possibly in its evolution give the line to a reasonable pathology of other forms of insanity.

Epileptic Colony.—Dr. Bond makes his last report before taking his departure to Long Grove. We beg to heartily congratulate him on his preferment.

The following weighty words support the remarks of Dr. Lord already quoted:

Among the epileptic cases admitted, a family history of insanity was ascertained in 21 *per cent.* of epilepsy and alcoholism each in 26 *per cent.*, and a history of personal alcoholic excess in 16 *per cent.* But every occasion which affords an opportunity of obtaining a family history of any given case with any satisfactory degree of completeness impresses me the more with the pre-eminent importance of a faulty heredity. The truth of this is being more and more recognised, and in its light, with the laudable aim of prophylaxis, the desirability of legislative measures is from time to time urged. While to some extent in sympathy with them, a warning seems to me necessary that the advocates of such measures, should they succeed in obtaining them, may then find their cherished panacea much less effective than anticipated. Our clinical records, for instance, show either that a considerable proportion of the cases, both of insanity and epilepsy, rightly judged to be the offspring of a faulty stock, were born before the appearance of the diseases in the relative, or that an intervening generation of immunity had occurred and rendered the known warning note too faint to be practically effective, even upon the ear of a public educated upon these matters. Moreover, I believe that the *rôle* of heredity in filling our asylums is not limited only to the neuroses

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but that, for instance, it largely accounts for the arterio-sclerosis occurring in early life, to the importance of which, as an associated bodily condition in some cases of insanity, I have alluded in previous reports.

Speaking of the question of recovery, Dr. Bond shows that out of the ten cases thus discharged four were well mentally, the fits continuing; in one the existence at any time of epilepsy was doubtful, in three the epilepsy and insanity depended on alcohol, and the reality of their recovery will depend on their abstinence. In the other two the epilepsy recurred at long intervals, bringing the insanity with it. Therefore relapse is to be looked for. He cannot, therefore, speak with optimism on the curative *rôle* played by the colony, though he insists on the large amount of alleviation worked by its ministrations.

Pathological Laboratory.—Dr. Mott deals at some length with both the dysentery and the tuberculosis questions. With regard to the latter, he is still of the opinion that in only relatively few cases is the disease acquired in the asylum. A large amount of obsolescent disease was found, in fact the average yearly percentage of cases showing obsolescent without active tubercle was 36·3 in the males and 31·2 in the females. These were found among all classes of insanity, but while in general paralytics and most chronic forms the mischief was limited, in dementia præcox, imbecility, epileptic imbecility, the tuberculous lesions were generalised and extensive. In about 13 *per cent.* of the cases a tubercular heredity of some sort was established. *Post-mortem* examinations were held in 1,415 cases in the county asylums during the year, and in 175 cases thus examined tuberculosis had been diagnosed *ante mortem.* The diagnosis was confirmed in 149, and the other 26 cases showed only obsolescent or no tubercular lesion. On the other hand, in 39 cases unsuspected and active tubercle came to light.

With regard to dysentery, Dr. Mott reports a marked increase over preceding years. The same applied to diarrhœa, and Dr. Mott insists from his observations that the only hope of eradicating the former disease is to treat and isolate the latter with the same rigour as dysentery receives. The contention of Ford Robertson and Macrae that the *Bacillus paralyticans* exists is not supported by the work done at Claybury Laboratory.

The Metropolitan Asylums Board Asylums.—The portion of the Board's report which deals with imbecility contains as usual much that is of interest. We learn from the Committee's report that success has attended the experiment of allowing female members of the staff to sleep away from the asylum. It has benefited the officers themselves, in that it enables them to get quite away from their depressing environment, and it has saved the provision of extra staff room. The Committee refer with deep regret to the death of Dr. J. R. Hill, one of our own members, who for many years had rendered it invaluable aid in asylum matters. A very useful department of the Report is that which deals with Defective Children (Appendix V). Miss Turner, the Medical Officer who visits and reports on the many homes for such children scattered in or near London, evidently takes much pains to forward amelioration by the now recognised methods of discipline and training. She, like others, has difficulties to overcome in carrying out wholesome treatment to a sufficiently prolonged extent.

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The second boy could not be sent, as his parents wished his return, and he was therefore discharged to them. This, I think, is a matter for much regret, for although the boy was so much improved that I thought it highly undesirable that he should remain longer with children who are deficient, yet, on the other hand, I equally did not desire that he should return to his home, where he is sure to find those influences still at work which had helped to cause his defect. A course of strict discipline was, in my opinion, necessary in order that he should remain permanently at the level of mental improvement at which I found him in June; still more necessary was it if he was to attain the fullest mental development of which he was capable.

A typical family history.—It will be interesting to follow his case in the future, and see whether his mental condition improves or deteriorates. Personally, I am strongly of opinion that deterioration will take place, his being a typical case of bad family history. The family history is as follows; *Father* had phthisis and was insane; *paternal grandfather* died of phthisis; *paternal grandmother* is in an asylum with mania and religious fancies; *mother* was laid up for four months before the boy's birth with spasmodic paralysis, and afterwards lost the use of her legs for some months; *maternal grandmother* died of consumption; ten *brothers and sisters* (nine living) have all, with one exception, suffered from some nervous trouble. To give particulars of the last in order of age: No. 1 (brother) is strong. No. 2 (sister) had meningitis, and for the last few years has had fits, evidently of an epileptic character. She also suffers from frequent swellings of the knee-joint, which are probably tubercular in origin. No. 3 (brother) suffered as a child from severe headaches. No. 4 (brother) had a severe nervous illness, nature unknown. No. 5 (brother) had meningitis, and is paralysed. He is mentally dull, and at seventeen years of age could not spell "cat." No. 6 (the boy whose history is in question) has had chorea. No. 7 (sister) has had meningitis, is very irritable, and subject to headaches. No. 8 (sister) had paralysis, and was for two months in a hospital for nervous diseases. No. 10 (brother, who died) was paralysed in the legs.

This is one of those cases which suggest most forcibly the advisability of having the control of children of this mental condition for a fairly long period.

In a sense the department supervised by Miss Turner is unique. It is only a huge area like the one now under report that can arrange to deal with a whole class of children who are between the normal and the imbecile, or, in other words, between their own homes and Tooting-Bec or Darenth. Every district has such children, but few have them in numbers sufficient to justify systematic handling. The work that has been carried on so far in London justified the opening in 1906 of a Colony at Witham for feeble-minded boys. Miss Turner speaks cautiously of the good that it has already done. It is evident, she says, that very considerable classification will be required. Mentally, trade instruction is found to be efficacious, but needs careful organisation. She places much value on proper physical exercise, drills, etc. "It is very important for a variety of reasons that these boys should be worked as hard as possible." They seem to be very apt in drill. Musical instruction, leading to the provision of a band, is much desired since it tends to brighten the home side of life. On the moral aspect Miss Turner is somewhat unhappy, and this cannot be a source of wonder. She, knowing the tendencies, thinks that they are best kept in check by the good influence exerted by women in small homes. If the boys are to be taken from such homes into the larger institution it is absolutely imperative that the staff should be ample enough to keep up the closest supervision. At Brentwood there is a similar colony for girls. This seems to be of a more satisfactory type, consisting as it does of a group of small cottages, thus enabling the pupils to have the benefit of more

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intimate personal control combined with the advantages of aggregation for teaching, recreation, etc. In both sexes Miss Turner finds a necessity for a well-regulated form of instruction in ordinary scholastic subjects, this, of course, being such as tends to exercise the brain rather than to impart special knowledge.

In his report of Tooting Bec, Dr. Beresford gives a useful table showing various heredities in his admissions to the children's part. Of 156 cases 62 had no such history, 41 had no known history, while 32, 14, 0 and 7 had heredities of insanity, phthisis, syphilis and alcohol respectively. In 7 cases the labour at their birth was returned as abnormal.

At Leavesden the efforts to seclude and neutralise the dangers of tubercular infection, to which we drew attention some years back, have been attended with considerable success. The death-rate calculated on average residence has dropped from 5·46 *per cent.* in 1902 to 2·24 *per cent.* in 1906.

At Caterham Dr. Campbell utters a strong protest against the want of facilities for proper nursing and care of the increasingly unsatisfactory admissions. This seems to arise from the wards, which were originally designed for one class of quiet imbeciles, having been gradually taken over for quite another class.

At Darenth Dr. Rotherham makes the same complaint as Miss Turner does about the removal of unfit patients. He says with regret that seventeen patients between the ages of five and twenty-three were discharged to the care of their friends by the order of the guardians, and in no instance was the patient fit in his opinion to be discharged from the asylum. Training in trades is made a great interest here, with good mental and financial results.

The statistics of all the asylums singly and summarised are worked out in a thoroughly conscientious manner, of course on the old system of the Association. It is to be hoped that similar treatment will be accorded to the new tables. One cannot help feeling that with all the immense care and labour, both in principle and detail, bestowed by the two bodies principally entrusted with the mass of London's insanity and mental want, great results would follow a cordial collaboration in exploiting in combination the immense masses of information tabulated. Separately the figures of neither class of institution represent the whole field of mental disease; together they supply materials for scientific inquiry which can hardly be equalled anywhere in the world. We might go further and say that the labour, of the Metropolitan Asylums Board in connection with the broad zone that lies between the normal and the abnormal have materially extended the scope of inquiry. The will to do the best work is evident; cannot the way to correlation be found?

Monmouth.—The figures about general paralysis at this asylum are very striking. It is not so long ago that this disease was comparatively rare in that part of the world. Now we find that of 336 admissions (less 164 transfers to the asylum) there were fifteen cases. Of these seven were females. This is all the more remarkable as it occurs after the withdrawal of the large urban population of Newport. Alcohol and syphilis were assigned as causes in very few instances.

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Salop.—This report adverts to a matter in which the law might be well altered with good effect. The authority wished to combine with several others to lease Sandwell Hal)for the purpose of an asylum for idiot and imbecile children. The Commissioners were compelled to say that this was *ultra vires*. It is said sometimes that the propinquity of an asylum has an injurious effect on the price of land. From the report it appears that the Committee had to give almost £180 per acre for an estate of 104 acres, with house, etc. This is pretty well for land two miles and more from a town that is not the largest in the country. The price for the land only without the house and appurtenances would have been double.

Somerset, Cotford.—To Dr. Aveline belongs the distinction of being the very first of county asylum superintendents to publish his annual statistics in the new form adopted by the Association. The scheme has come in for much criticism during the pre-experimental stage. No doubt further criticism will be bestowed on its appearance in concrete form, and we feel that it would be too early to attempt to review the results thoroughly from only one example. But a few ideas strike one. Accustomed as we are to looking over for the purposes of review many reports each year, we must say that the tables are somewhat bewildering at first. The amount of information is immense, and the re-arrangement in different form makes it difficult to find the usual particulars. But a little patience gets over such troubles, and then a certain amount of purpose is found to be behind the change. Just the same feelings existed in the 80's, we remember, when the last set was devised, though, of course, the bulk was then much less. They have been lived down, and we suppose that the same happy end will come again. The mere expense of putting all the matter into print must be considerable, but we do not think that it would in any case be found really an appreciable addition to the ordinary disbursements. Leaving general principles for the present and turning to the individual tables, the first one that calls for special notice is the one dealing with occupations in direct admissions, giving the ages at the commencement of the disease in the first-attack cases. We see that out of 6 domestic female servants 5 fell ill between thirty-five and forty-five. If such a fact as that should prove to be according to general experience, something fresh will be gained for the study of social conditions. The ætiological table (on admission) is certainly an improvement, as it allows minor influences to be stated with something like a valuation of circumstances attaching to the onset of an attack. But its principal use from the asylum point of view will be in relation to the table in which the admission ætiology is applied to the recoveries. In relation to alcohol the experience at Cotford is very different to that at Leicester as mentioned above. The recoveries are 14 as against 16 admissions. It was assigned far more frequently as a contributory than as a principal cause. The influence of heredity is especially notable. Of the 115 direct admissions 49 had this assigned against them as principals (congenital 2, first attack 30, and not first attacks 17). Of the 62 recoveries of all kinds 35 had the taint. Here again will be found information of the first value—information that took Thurnam many weary years to collect. The 49 cases having heredity are analysed as follows: Having

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paternal taint without maternal 22, maternal without paternal 16. In both classes some, but not universal, fraternal taint was found. In the remaining 11 cases fraternal taint without discovered parental taint was found. The death tables allow of contributory circumstances being enumerated for the first time.

We commend to all asylum officials a study of Dr. Aveline's figures, feeling sure that this will reconcile those who may be alarmed by the apparent magnitude of the task involved in using the new scheme. Dr. Aveline himself does not make any remark as to the increase of labour in compiling his figures.

East Sussex.—Dr. Taylor reports that he found heredity to be by far the most common element in the ætiology of the admissions, no less than 47 *per cent.* of the males and 52 *per cent.* of the females having the taint. This large proportion is probably as much due to diligence in search as to actual excess over other districts. History could only be obtained in 4 out of 11 male general paralytics, but in each of these there was evidence of pre-existent syphilis. A death occurred from typhoid, the occurrence of which was quite inexplicable. The patient had seen no friends for a long time, had had no parcels, the milk and water were found to be perfect, and there was no other case before or after. Such events bring much worry to those who don't deserve it.

Wiltshire.—Dr. Bowes, in expressing a hope that the view that insanity is a disease requiring special treatment will grow stronger on the public mind, writes:

An adequate and efficient staff has led to more personal care and supervision, with the result that restraint and seclusion, which were necessarily freely resorted to in former years, have of late almost been abolished.

The following figures show the difference in the mode of treatment, with the results accruing from the change.

Years.	Average No. of patients.	Proportion of attendants to patients.	Restrained.	Secluded.	Escapes.	Inquests.
1881 to 1886	620·4	1 to 13	48	258	13	14
1901 to 1906	963·7	1 to 9·4	16	20	8	1

We think that he might have fairly fortified this evidence by a refererence to the medical results of treatment. For the same periods, as we find on reference to Table III, the recovery rates were 31·7 and 34·5 respectively, the percentages of death on average residence being 10·8 and 8.

This county appears to have been more than usually successful in persuading boards of guardians to take back to the workhouse patients who are considered fit for residence there. Twenty-two were thus discharged, relieving the overfull asylum.

Yorkshire, West Riding, Wakefield.—The aperient treatment of patients in anticipation of colitis seems to be highly successful in keeping this scourge at bay, the incidence being shown by a table to have decreased in a remarkable manner. Dr. Bevan Lewis gives a table showing the results of work in the Electro-therapeutic Department.

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Form of insanity.	Number of cases.	Recovered.	Relieved.	No effect.
Sinusoidal baths.				
Acute mania	7	4	2	1
Dementia præcox	3	—	2	1
Systematised delusional insanity	6	—	4	2
Exhaustion psychosis	3	3	—	—
Acute melancholia	8	4	2	2
Chronic melancholia	1	—	1	—
Stupor	7	5	1	1
Static baths.				
Exhaustion psychosis	1	1	—	—
Acute melancholia	1	—	1	—
Dementia præcox	1	—	1	—
Stupor	3	2	1	—

The results, as far as regards stupor, are most satisfactory. We presume that by the term is meant the heavier form allied to the so-called acute dementia. In comparing this table with the section of Table XI which deals with the form of insanity in those who recovered, we are much struck by the large number of recoveries that have taken place in forms that usually yield but poor returns. We imagine that Dr. Lewis does not read into the titles of the term "dementia" that amount of hopeless degradation that occurs to many in connection with it. We have always felt that sufficient provision in classification has not been made for the state not infrequently seen in which the intellect becomes clouded either as a passing episode in an attack of insanity, or as an independent manifestation of temporary loss of function—a state that might not unfairly be termed "benign dementia." Dr. Bevan Lewis speaks in high terms of the beneficial work done at Stanley Hall in training weak-minded and imbecile boys. Steps have been taken to found a similar institution for girls.

Some English Registered Hospitals.

Barnwood.—Here the admissions as between the sexes have differed immensely in number. The males have numbered 14 only, while the females were 30. In addition, too, the prognosis varied much. In the former only one, an alcoholic, presented any probability of recovery, while at least half of the other sex have either recovered or have a good chance of recovery. Dr. Soutar makes the following remarks on these facts:

> It is generally recognised that women recover in larger proportion than men do from mental disorders. This report is not the place to discuss the explanations given for that fact, but it may be mentioned that we have found in recent years that insanity amongst the male patients from forty years of age upwards has, in an increasing number of cases, been associated with ascertainable arterial degeneration. These early "senile changes" are still comparatively rare amongst the women. In the case of most of the men alcohol or syphilis may be excluded as a condition precedent to the arterial changes, but we find them amongst those who have struggled and striven, often successfully and with little relaxation, in arduous mental work. In other cases it would seem as if excessive devotion to athletic exercises, carried on beyond the elastic years of youth, led, in those predisposed, to old age arteries in middle-aged men.

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Oxford, The Warneford.—Here, too, there is a notable falling off in the male admissions, while the female side has been overflowing. Dr. Neil makes the subjoined remarks about the dealing with "incurable" cases in registered hospitals. This is an old and burning question. No doubt, if it can be proved that the original intention of the founders of an institution was that it should be used more for the cure than the care of insane people, it is right that the incurable should be turned out to take their chance of admission elsewhere. It has to be remembered that such cases, if troublesome, always have an extra difficulty in finding a new home, while none need more the protection of an institution than they do. We think, too, that even in the absence of any proof of original design a committee may well consider that it has a large duty towards the curable, and seek to make room for them as far as possible. But, if such a principle must be pushed to the prejudice of some who might profitably remain, then logic would suggest that it should be applied indifferently to all after a given period of treatment, as is the case at Bethlehem. We know that some selection must be made in relation to payments, so that the less affluent should derive benefit from the surplus paid by the better-off. Beyond that, selection should in our opinion not favour the amenable at the expense of the troublesome, who, as said above, have as much if not more claim on benevolence.

A number of transfers from other care have always appeared in our yearly admission lists, although for 1906 they are fewer than usual. The reasons for the transfers are generally of a pecuniary nature, and few of the patients have much prospect of recovery. One of our transferred patients during the past year was a lady whose friends, to their great distress, had received an unexpected notice from the registered hospital where she was being treated that she must be removed as "incurable." They applied at another hospital, and on stating that the case was a troublesome and unfavourable one were told that her admission was "impossible." They then made application here, and the patient was admitted at a lower charge than they had been previously paying. The case proved to be an exceptionally difficult and trying one, and for a time taxed our nursing resources to the utmost. Some improvement has lately appeared, and the treatment is now easier, but the lady will probably not recover completely. I quote this case as an example of the advantages offered by this hospital to patients of the educated classes whose means are limited.

Exeter, Wonford.—This institution is full to overflowing. This may be partly accounted for by the remarkable fact that with an average residence of 131 there was only one death. This speaks well for the equable moral atmosphere pervading the hospital. Nevertheless, there were 26 admissions, of whom only 8 could be regarded as probably curable. Dr. Deas thinks that, speaking broadly, his belief is that physical causes exceed to a considerable extent the mental, and that in many cases the *modus operandi* is of a toxic nature. We are glad to note that financially the last year was unprecedentedly successful. A year or two like this are wanted to confirm the financial ease for which the Committee and Dr. Deas have strenuously fought for years past.

York, The Retreat.—Dr. Pierce has shown the way among the hospitals in first producing his statistics in the new shape, and we think that he and Dr. Mackenzie are to be therefore congratulated. The numbers are small, but the work must have been large. We do not propose to do more than make a casual remark or two on them. We

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note that all the alcohol cases are entered under the "principal factor" column. It is a great gain that such cases can be argued about with certainty. We note that here all the heredity is treated as "contributory," whereas at Cotford it is treated in the contrary way. The rights of the matter would form a fine subject for debate.

The same remark applies to the causation by mental stress. Here perhaps the difference in social position may account to some extent for the variation in views. We do not find any return of the original causation in the twenty recoveries. This will always be of cardinal importance. We note in the very useful table giving the forms of insanity in the residue, that in the total of 169 residents on December 31st there are no less than twenty-eight cases of primary dementia. Under that fact must lie some principle of definition that is not usual. We remember that when the new nomenclature was published, some felt doubts as to the precise meaning to be attached to the term.

Dr. Pierce makes the bold, though not unwarranted, suggestion that the principle of detaining recent and curable cases under modified certification in private houses should be extended to treatment of them in institutions. Thus the stigma of definite certification and declaration would be held over for the time until failure of cure had been demonstrated. He had a case in which certification served *ipso facto* to lose the patient his business position. We very much doubt whether any such proposition would receive consideration, although Dr. Pierce contemplates magisterial inspection of each case.

Some Scottish District Asylums.

Aberdeen, Kingseat.—This being the only asylum report at present dealing with an absolutely discrete system of accommodation, the record of a second year's progress must be of much interest. That record is certainly satisfactory. The ratio of recoveries is high, well above average indeed; the death-rate is normal; there has been the average amount of accidents. The patients are reported by the Commissioners on each occasion to be comfortable and free from excitement, and the weekly maintenance rate is quite reasonable. These are the points by which the scheme and management must be judged. No doubt there must be much advantage in breaking up population into items that can be treated with varying liberality. We note that 80 men and 79 women, a total of 159 out of 412 patients, are on parole. This large ratio no doubt is to some extent rendered possible by the segregation of the asylum itself. Some plates supplied in the report suggest miles of open country round the institution.

Glasgow, Gartloch.—Dr. Parker deplores the character of the majority of his admissions; 66 *per cent.* of these were ill over a year, were congenital imbeciles, or had been previously ill. Of course this high proportion would be expected after Dr. Carswell had paid his attentions to the bulk of fresh insanity in the district. As Dr. Parker points out, these attentions must have some effect on the number of patients admitted into asylums and thereby vitiate the calculations of the Commissioners when they seek to estimate by admissions the yearly incidence of the disease. It is claimed and admitted that several short cases that

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would formerly have come under the notice of the Commissioners are not now returned to them. A table put forward by Dr. Parker shows how the proportions respectively of young, middle-aged, and senile cases have gradually shifted since 1898. The first named are now 32 *per cent.* of the admissions, tending on the whole, though not markedly towards increase. The centre group, thirty to fifty years of age, however, have decreased by regular stages almost from 60 to 36 *per cent.*, while those over fifty have increased from 14 to 31 *per cent.* He suggests that boarding out might be increased in efficiency if those subjected to it could be grouped, so as to be within easy supervision of some individual inspector—a medical man for choice. The influence of parental inebriety on the production of insanity in offspring is becoming an accepted fact in spite of some disinclination to accept any evidence as conclusive on any point connected with ætiology. The figures given by Dr. Parker again this year are striking enough to be reproduced here. In 112 cases with a definite history, parental alcoholism was established in 70 and excluded in 42. Of the same 112 cases 49 commenced before the age of twenty-six, and in these there was parental alcoholism in 41, or 83 *per cent.*, while in the other 63 the percentage was 46 only.

Govan, Hawkhead.—Govan has followed the lead of Glasgow in establishing observation wards apart from the asylum itself. Therefore not only are the admissions into Hawkhead reduced by straining off several mild and evanescent cases which get well inside of six weeks, but the ratio of recoveries is naturally reduced. In spite of that the latter is quite respectable. The chief item of interest must be Dr. Watson's new system of ætiological record, to which we adverted last year. In spite of his further remarks in this year's report, we still think that we are correct in holding that the public has a right to expect an expression of opinion on the causation of insanity from those to whom it gives the best chance of forming that opinion. Dr. Watson says that ætiology ought to be regarded as in the collecting stage. So it may be, but how long is collection to go on? For ever? If not for ever why should not a man with the experience of many years digest and use his own collection of facts. If, on the contrary, this process is to be perennial—*medicus expectat dum fluviet amnis*—surely time and opportunity are being wasted. Particularly in regard to the effects of alcohol on the human race Dr. Watson is very averse to anyone giving an opinion. Of course some men may be of a slovenly way of thinking, but there are others whose logic is unassailable, and some of these may claim to found a logical opinion on long and trained observation of facts. He himself has made use of experience in classifying three males and two females under the head of alcoholic. We presume that a careful weighing up of known facts has enabled him to state positively that these cases have fallen victims to the toxine. Why may not others be equally positive? The same arguments may be applied to the use by him of the term "puerperal insanity." If no attempt is to be made as yet to assign definite causes, classification needs revision. But whatever argument or difference of opinion may arise over these questions we shall always think that Dr. Watson has done a great thing in producing his valuable collection of facts, in the form devised by himself.

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Inverness.—Dr. Campbell shows that the average number of admissions for the last ten years exceeds the number actually admitted in the year under record. He thinks, therefore, that there has been no increase of insanity of late years in the district. It is curious to read as a possible explanation that the public is more tolerant of insanity than formerly, the obverse being one of the stock allegations made in the south for the purpose of discounting a very obvious increase in totals. Yet it may be true in a neighbourhood like that of this asylum, where boarding out is practised to a large extent.

In dealing with the high ratio (34 *per cent.*) of readmissions, Dr. Campbell points out that this depends in great measure on the strong efforts that have been made to relieve the asylum of cases entitled to have a trial of outside life. Some of these must inevitably be failures in course of time, but in respect not only of them, but also of those who still remain boarded out, credit has to be taken for the relief produced by their absence. He also points out that such a high rate is the best proof of determined attempts to weed out cases not requiring asylum control. In considering the influence of alcohol in particular cases, he frequently finds that when an abstemious man becomes mentally indisposed he takes a little alcohol under the belief that it will help him to do his work, and then of course the progress of events is hurried on. It is proposed to remodel a house on the asylum estate, on which being done forty-eight beds will be added at the rate of £40 each. We note that a second assistant medical officer has been appointed—not before time, seeing that there are nearly 700 patients.

Roxburgh District.—Now that the accommodation has been so much increased arrangements have been made for taking private cases at £40 from the district and £45 from outside. Dr. Johnstone makes an energetic protest against the asylum being made use of by the law.

A woman, charged with the wilful murder of her two infant children by drowning them in the Tweed, was sent to the Asylum under the 15th Section of the Act 25 and 26 Vict., cap. 51. Twelve days later she was removed to Edinburgh Prison by order of the Sheriff. At her trial she pleaded guilty to culpable homicide, and was sentenced to six months' imprisonment. No opinion is expressed here as to the regularity of the legal procedure followed in this case; but a protest must be raised against what appears to be a growing tendency to make use of asylums as convenient houses of detention for dangerous criminals. The modern asylum is essentially a hospital; its arrangements are not designed to meet the requirements of a gaol, and, in so far as its conditions are made to resemble those of a prison, its efficiency as a hospital must suffer. It is most unfair that respectable members of the community sent to the institution for medical treatment should be forced into association with malefactors and murderers, and the presence of such persons in the wards is keenly resented by the patients.

A comment we may add is that sentence of six months' imprisonment for two murders seems to be so inappropriate that some idea of irresponsibility on the part of the offender must have been in the mind of the judge. The peculiar grievance that is felt by district asylums in regard to the absence of any power for the granting of pensions is discussed at some length, and we consider that Dr. Johnson has put the arguments for such power being given in a particularly clear and convincing manner. Perhaps if the Scottish officials keep on pressing the matter on their members, they may in the end get a compulsory instead of a permissive scheme such as England has to put up with.

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Lanark District.—After seven years of constant moaning and lamentation, kept up to the annoyance of all around, a female patient suddenly got quite well, and has kept so. She is so grateful for her treatment that she wishes to devote the remainder of her life to nursing mental patients. If we remember right it was in regard to the statistics of this asylum that several years ago, in the time of Dr. Campbell Clarke, we first raised objection to general paralysis being assigned as a cause of insanity. We should not wish to add anything to what we have said on this matter on a former page had not we seen another table supplied by Dr. Kerr. This shows the bodily condition on admission of the patients admitted. Under the head of the nervous system there are two patients returned suffering from this disease. We find, however, that in the cause and the form of mental disease tables, five cases are entered. This increases the difficulty we find in ascertaining the principles on which general practice is departed from.

Stirling District.—Dr. Robertson points out that his admission ratio for last year is exactly the average for the last eight years. As the total population of the district supplying the asylum has probably increased by 40,000, his belief that the volume of occurring insanity is gradually decreasing receives support. He thinks that this might be expected. Insanity is a symptom of physical disease, and he is of the opinion that with the increase in physical improvement insanity must be expected to lessen. He considers, too, that the amount of so-called alcoholic insanity in a district can be taken not so much as a measure of alcoholic excess as a test of the amount of degeneracy. In mentioning the rapid decrease in the tuberculosis ratio, he states that systematic spraying with formalin solution of the whole interior surface of the asylum is practised. Dr. Robertson sets great store by having in charge of all the departments, male and female, an educated and trained assistant matron. The staff on the male side is composed of eleven nurses and twenty-five attendants. This replacement of men by women is worth a trial, no doubt, and it will probably succeed under the energetic care of Dr. Robertson. But it will have to go very well indeed to go at all. As soon as the least laxity or laziness creeps in there will be serious risk of abuse and failure. The criticism that is bestowed by Dr. Robertson on Lord Rosebery's Bangour speech is very much to the point. Touching the comparison of the patient's comfortable surroundings with the opposite conditions found in their relatives' homes, Dr. Robertson suggests that the latter should be asked which they would wish to have —the comfort for themselves and the discomfort for their insane friends, or the reverse. He says that whenever he has asked this question the answer is at once for the patient. The one consolation that friends have in giving up their mentally sick is that nowadays the State, when it takes the charge, does so in no niggardly manner. This is most true, and the feeling is at the root of that change in public opinion which has pressed and will continue to press for the best treatment, in spite of all cry for economy.

The table of the restraint and seclusion used in Scottish asylums for five years is reproduced in this report, having been taken from the Commissioners' Report of the preceding year. We are enabled to congratulate Dr. Robertson on his exceeding good luck in not having

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had during this space of years to deal with a case calling for either mode of treatment. We are not quite sure that any very good reason can be shown for the appearance of this table here, except as a peg on which to hang thankfulness. As to its publication by the Commissioners we are also more than a little sceptical. Looking to the character of the men in charge of Scottish asylums, and to the extremely moderate use made of the tabulated items, the only lesson to be learned is that in spite of aversion to either restraint or seclusion there are from time to time a few patients who must be treated by such means. This we all, or most of us, know, but the public does not know. It occurs to us that such a table might easily be misread; its purpose might appear to even the instructed public *pour encourager les autres*, like the lists of names sometimes placarded in railway stations. If such an idea got about immense mischief would be done. In a case in which restraint might seem to be almost imperative, a superintendent might well be excused for reflecting that if it was applied then his asylum might be at the head of the published restraint averages, and for deciding the matter in favour of his own reputation, but not necessarily in favour of the patient, other patients, or the staff.

Some Scottish Royal Asylums.

Dumfries, The Crichton.—Dr. Rutherford having retired, the present report is the last that will be signed by him. This is not, of course, the place to attempt to deal with the services to the cause that have been rendered by him, but we feel that we shall be losing an old friend whose progressive liberality of view generally provided something in his report to think over and annotate. The near completion of the wholesale re-organisation of the rate-paid accommodation must be a satisfaction to him. The very last items are a reception house, an infirmary, and two closed villas. The number selected for the first, that is to say twelve beds, seems to be rather on the small side. It may be enough for those who will actually get well, but for the considerable fringe of doubtfully curable cases the opportunity of the treatment that will best solve the doubt would seem to be too small. One objection sometimes taken to these truly mental hospitals is the effect on patients of removal from them to those other premises where hope is admittedly less. Such an objection, if true, would have greater effect where the margin of room is so small. The closed villas will be for thirty patients each. We quite recognise that the provision for places where the violent, noisy, and dangerous must be gathered together is an essential element of the segregation method. But it is undoubtedly a very weak point in all these schemes. In discussing the differences between rate-paid and private discharges without recovery, Dr. Rutherford writes:

When the cost of maintenance is defrayed from private sources, and when the family of the patient is in straitened circumstances, a powerful inducement is held out to them to remove the patient as soon as the malady has assumed a manageable form. On the other hand, when the cost of maintenance is defrayed by the parish, the pecuniary motive for removal ceases to operate, and as the family of the patient is relieved of all trouble and responsibility, a great inducement is held out to leave him where he is. A very large number of pauper patients are thus unnecessarily detained in asylums. In the two houses of Brownhall and Maiden-

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bower there are twenty-eight female patients, nearly all of whom could be boarded out, and the same might be said of many of the men in the farm annexe.

Lord Rosebery's speech at the opening of Bangour attracted Dr. Rutherford's attention as being unnecessarily alarming. He himself thinks that there is no increase of insanity among the class that pay over £60 of board. The same he holds of the well-to-do artizan classes, while from a most interesting table it appears that the actual number of the insane at the present day in the purely rural parts of the whole of the district served by the asylum is less than it was in 1831, which was the year of inception of the asylum. In this district, as is the case everywhere, according to Dr. Rutherford, the increase in the number suffering nowadays comes from the very lowest classes to be found chiefly in the large towns.

Edinburgh, Morningside.—Dr. Clouston, in discussing the prevalence of general paralysis (35 males and 20 females admitted) naturally adverts to the work of Drs. Ford Robertson and MacRae. He confirms the claim of these physicians that improvement has followed treatment on their lines in early cases. But, as he points out, the first thing is to improve diagnosis, so that the cases can be caught when in their earliest stages, before the brain is seriously damaged.

I have for many years believed, and have written, that the disease has really begun in most cases long before it is even suspected or its known symptoms have become recognisable. There are certain changes in conduct and in the higher faculties of mind, such as the will, which may occur several years before the speech becomes affected, that being the common diagnostic sign that enables us to say that the disease is there.

On May 27th, 1907, Morningside completed its hundred years of usefulness. A short history of those years is supplied by Dr. Clouston. The institution appears to have had but three physicians—Dr. Mackinnon to 1846, Dr. Skae from that time to 1873, and Dr. Clouston from then onward. The present sketch, beyond being short, deals with a considerable variety of matters, as was bound to be the case seeing that it is intended for the many classes into whose hands the report annually falls. The subject is worth treatment from the purely medical side, and we would suggest that Dr. Clouston could not find a better subject for a contribution to the journal of which he was so long editor than the scientific good that Morningside has done. It would appeal to the very large proportion of our members who have in one way or another an intimate knowledge of Morningside and its ways. We are glad to note that the removal of the rate-paid patients to Bangour enables the institution to receive all cases that can afford to pay £32 10*s*. It will thus be able to resume the benevolent work for which it was thought out and established.

Glasgow, Gartnavel.—We take the following extract from the speech of the Lord Provost of Glasgow, who was in the chair of the Governors' meeting at this asylum. It is encouraging to find from a layman such an extensive appreciation of the truth that underlies every particle of care and treatment of the insane. We think that perhaps the second sentence somewhat strains the logical application of the first, but if prominent citizens like his lordship are imbued with the idea, much assistance can be looked for in quarters where too often the medical has to yield place to the financial interest.

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It is a hopeful feature about the mental illnesses of recent times, the growing belief—a belief justified by experience—that the symptoms in connection with such cases arise from physical causes—from some disorder of the organs; and that goes to show plainly that the mind is affected by the condition of the body, and that, if such physical symptoms were taken in their earlier stages, the mental symptoms might be prevented altogether. It also fosters the belief that such cases could very well be dealt with, in their first stages at any rate, in the general hospitals of the country rather than in the special hospitals for mental diseases, and the friends of patients in the earlier stages of the disease would have far less objection to have them removed to a general hospital than to such an institution as that in whose interest we have met to-day.

The finances of the institution are such that it was possible to admit twelve acute cases for £25 each per annum. In none of these cases could the regular minimum of £40 be paid.

Perth, The Murray.—Dr. Urquhart, in his report, quotes some particulars that he worked up for the Morison Lectures for this year. As he says, we have to do with a disease profoundly affecting bodily nutrition and secretion, mainly originating in hereditary defect, and issuing in a liability to repetition of attacks. Thus insanity is brought into line with other diseased bodily conditions, and the mystery of madness is left on a par with the mystery of rheumatism, which also is of a cyclic character quite different from those maladies which, like smallpox, appear to confer immunity upon the individual. Of 809 *persons* admitted, 1880–1904, 45 *per cent.* had the heredity of insanity, and 72 *per cent.* that of neuropathy.

An examination of the families of insane parents, however, showed that 47 *per cent.* of the children of insane fathers were alive and sane, while 29 *per cent.* were insane; 42 *per cent.* of the children of insane mothers were alive and sane, while 39 *per cent.* were insane; 33 *per cent.* of the children of insane fathers and mothers (both parents) were alive and sane, while 44 were insane. Mr. David Heron calculated that this morbid heredity falls heaviest on the eldest child, and rapidly diminishes with the number of children. There is, even in the most disastrous class, an effort towards regeneration, and a curability which does not greatly differ from that of insanity, which is not hereditary in the first instance, although hereditary defect is apparent in depressing the *final* recovery rate and raising the death-rate.

Some Irish District Asylums.

Clare, Ennis.—We have made the following extracts from the reports of the Commissioners in 1905 and 1906. They tell, indeed, a remarkable tale. It is refreshing to find, however, whether in the Committee's reports or in those of the Commissioners, or in the figures bearing on restraint, accidents, and so forth, ample recognition of the method in which Dr. O'Mara manages the institution in the face of appalling difficulties. It would appear, too, that the blame for what is happening cannot be attributed with justice to the Committee, as plans for remedying much of the mischief had been passed by them.

1905.—The Commissioners write:

The Committee have recognised the necessity of providing further accommodation, and have had plans for the work prepared. These plans received the statutory approval of the Lord Lieutenant, under the 9th Section of the Local Government (Ireland) Act, 1898, in November, 1904, but, when the action of the Committee came before the County Council for confirmation, that body postponed the consideration of the matter, pending the issue of the report of the Commission which is at present inquiring into the working of the Poor Laws.

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This, having regard to the great overcrowding of the asylum, was a very serious step, and I cannot help thinking that the Council can scarcely have considered the matter in all its bearings before arriving at their decision.

Having regard to the constitution of the Poor Law Reform Commission, I feel sure that its recommendations will be both important and valuable; but I may point out that it does not come within the scope of its functions to deal with the wants of the large body of acute cases of insanity for whose treatment provision is required in County Clare.

There is, as has been frequently stated, scarcely any proper day-room accommodation in the asylum, so that the present surroundings of the recoverable cases tend to aggravate and perpetuate their mental derangement rather than afford them the means of treatment towards recovery which the law and humanity alike demand.

It would be little exaggeration to say that the old and barbarous method of smothering maniacs between feather beds was, in a sense, more humane than placing them in conditions which tend to intensify the mental agony from which so many of them suffer.

Enteric fever was very prevalent, and no wonder, for, as the Commissioners report, the drain was built of rubble masonry with little fall, and is now riddled by rats, and ventilating into the wards:

1906.—From the Commissioners' report:

In order to meet the daily increasing demand for additional accommodation temporary sleeping rooms have been provided in the airing courts by converting the old sheds into dormitories. By this means sleeping room has been obtained for twenty patients of each sex. This has, in some degree, lessened the crowding at night, but it is inadequate to meet the exigencies of the case, either as regards the want of dayroom space, or room for fresh admissions. Nor, indeed, did it afford sufficient room for the patients at night, as at the present time six men have to sleep on the floor through want of room for their bedsteads.

Owing to the want of suitable accommodation, the acutely insane, the suicidal, the sick, and the epileptic have to be treated in the same ward. It is needless to point out out how disastrous it is to the hopes of recovery in the newly admitted cases that they should have to pass their days with those whose malady must be a source of terror and repugnance.

The overcrowding in the dining-hall renders the service of the meals a matter of very great difficulty and of some danger, but, nevertheless, on both sides the quiet and regularity which prevailed was certainly astonishing.

Having regard to the great difficulties which must daily arise in the administration of this asylum, owing to the excessive overcrowding and the inadequacy of the various departments, every credit is due to Dr. O'Mara for his careful management of the establishment, under circumstances which are not encouraging.

Down., Downpatrick.—This report is garnished with some excellent photographs of the wards and rooms in the asylum. From these it is apparent that in the matter of furniture and general cheerfulness the asylum is in no way behind the best examples in other parts of the kingdom. Dr. Nolan states that, while the average incidence of insanity for all Ireland is 1 in 178, in his district it is no more than 1 in 216. This he attributes to freedom from dire poverty and the state of unrest that accompanies failing prosperity, and from the wearing strain of agrarian agitation, all combined with a sense of a fairly prosperous state of things. He is very anxious that the Association's new tables should be made statutory in Ireland. "It would be a genuine pleasure to record well-considered facts; to be compelled to dump down a yearly quota of unsifted generalities is an uncongenial task." We think that the following extract from the evidence that he gave to a special committee is quite as appropriate to other parts of the kingdom as it is to Ireland:

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In a poor country, such as Ireland is, it would appear to me that the most expensive way of dealing with the insane would be to set up several classes of asylums adapted to treat the supposed stereotyped clinical forms of insanity, as differentiated by a Parliamentary draughtsman, when one knows and considers that the clinical features of such cases are so very variable. On the other hand, an auxiliary asylum, which would be a department of an existing district asylum, offers all obvious advantages to economy and efficiency.

Limerick.—The Commissioners, if they can speak with vigour as at Ennis, can also utter some nice words, as here:

During the inspection of the wards the patients were wonderfully quiet and well behaved. The Limerick Asylum is an object lesson in this respect, as showing the effects of modern and humane treatment in restraining the violence and excitement which, in old days, characterised insanity. Forty years ago it was reported that in no district in Ireland were the insane so noisy and extravagant in demeanour as those belonging to Limerick, and thirty years ago, in going through the wards, one could recall the pictures of Hogarth—the patients rolling on the ground in rags, shouting, fighting, and attacking all who came near them. Now in no institution could one see better conducted and more orderly people.

When dealing with alcohol Dr. O'Neill strongly advocates teaching in schools the perils and dangers of intemperance. We are with him in this entirely. Reformed drinkers are satisfactory when found, but prevented drinkers are the hope of the future. The establishment of temperance societies for the young has done more good than all the regulations affecting the conduct of drinking places, even throwing in the Habitual Drunkards Act.

Part IV.—Notes and News.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

An Ordinary Quarterly Meeting of the Medico-Psychological Association was held at 11, Chandos Street, Cavendish Square, London, W., on Tuesday, November 19th, 1907, under the presidency of Dr. P. W. MacDonald.

Present:—Drs. T. S. Adams, A. J. Alliott, H. T. S. Aveline, W. H. Bailey, C. H. Bond, D. Bower, A. N. Boycott, J. F. Briscoe, C. Caldecott, J. Carswell, J. Chambers, C. Clapham, A. Corner, M. Craig, J. F. Dixon, A. C. Dove, P. L. Down, W. Ewan, H. E. Haynes, J. H. Higginson, G. H. Johnston, W. S. Kay, D. Ker, P. W. MacDonald, T. W. McDowall, W. J. Mackeown, M. E. Martin, W. F. Menzies, C. Mercier, A. Miller, C. S. Morrison, W. F. Nelis, Hayes Newington, A. Nobbs, F. W. Nutt, M. E. Paul, J. P. Race, H. Rayner, G. H. Savage, J. Scott, G. E. Shuttleworth, P. C. Smith, R. P. Smith, J. G. Soutar, T. E. K. Stansfield, R. H. Steen, R. J. Stilwell, W. C. Sullivan, F. R. P. Taylor, D. G. Thomson, T. S. Tuke, J. M. Turner, F. Watson, E. W. White, T. O. Wood, and Albert Wilson.

Visitors:—Drs. W. J. Attwater, E. C. Bunch, H. C. Burt, D. G. G. de Clérambault, H. Fagan, Eliot Howard, A. P. John, A. Lamont; Sir Ralph Littler; Dr. Jay Smith; Rev. J. G. Stevenson; Commissioner R. J. Sturgess; Miss G. Toynbee, Drs. A. Wallace, A. White, and R. Wiglesworth.

Apologies for absence were received from Drs. J. L. Baskin, T. S. Clouston, C. H. Fennell, Robert Jones, H. Wolseley Lewis, Bedford Pierce, J. Stewart, and A. R. Turnbull.

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The minutes of the last quarterly meeting having been previously printed in the JOURNAL, were taken as read, agreed to, and signed.

The following new members were unanimously elected:

Harold Reginald Burpitt, M.D.Brux., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, Metropolitan Asylum, Darenth, Dartford, Kent. Proposed by A. Rotherham, R. H. Steen, and H. Hallett.

John Stothart Farries, L.R.C.P., L.R.C.S.Edin., Assistant Medical Officer, Royal Albert Asylum, Lancaster. Proposed by Archibald R. Douglas, D. M. Cassidy, and H. Hayes Newington.

Mules, Bertha Mary, M.B., B.S.Durh., Court Hall, Kenton, South Devon. Proposed by P. Maury Deas, H. Hayes Newington, and C. Hubert Bond.

James Parker, L.R.C.S.&P. and L.M.Irel., Assistant Medical Officer, West Riding Asylum, Wakefield. Proposed by W. Bevan-Lewis, H. Hayes Newington, and C. Hubert Bond.

Helen C. Stewart, M.B., Ch.B.Birm., Edae, Chigwell, Essex. Proposed by Frederick W. Mott, A. I. de Steiger, and W. Stanley Hughes.

The PRESIDENT said that before he called on Dr. Albert Wilson, he wished to make one or two brief observations. He was sure it was the desire of the meeting, and of the whole Association, that there should be officially communicated to Mrs. Urmson an expression of their sincere sympathy in the loss of Mr. G. H. Urmson, who had been for many years a Commissioner in Lunacy. It would be agreed by every one who knew him that Mr. Urmson was one of the truest English gentlemen they could wish to meet. He also thought that reference should be made, at that the first meeting after the event, to the signal and great honour which had been conferred on an honorary member of the Association, Sir Thomas Clifford Allbutt, K.C.B., and to him they offered hearty congratulations. He next mentioned, with regret, the long and serious illness of a former President of the Association, Mr. G. W. Mould, late of the Cheadle Asylum, who was now lying seriously ill in Wales. He was sure it would be the wish of members to convey their sympathy to him in his illness.

Dr. G. H. SAVAGE said that it was perhaps scarcely necessary to put in the form of a vote the expression of the feeling of members concerning the death of the late Commissioner in Lunacy, Mr. Urmson. Some of them knew him not only officially, but personally, and in whatever capacity they knew him they always respected him, and looked upon him as being as fine a type of English gentleman, English lawyer, and Commissioner as could be found anywhere. Therefore he was sure all would agree that a message of condolence and sympathy should be sent to Mrs. Urmson and family.

The resolution was agreed to in silence.

The PRESIDENT called upon Dr. Albert Wilson to supplement his previous paper by a few short observations, and expressed the pleasure he felt at seeing so many visitors present.

Several visitors and members took part in the discussion which ensued and Dr. WILSON replied.

Dr. Robert Jones was to have communicated an account of the International Congress on School Hygiene (at which he was the Association's delegate) but was unavoidably prevented from being present at the meeting.

In view of the lateness of the hour the description of the Amsterdam International Congress on Psychiatry, etc. (held last September), which Dr. F. W. Mott, F.R.S., had similarly kindly promised to give, was taken as read.

The members afterwards dined together at the Café Monico.

SOUTH-EASTERN DIVISION.

The AUTUMN MEETING of the South-Eastern Division was held by the courtesy of Dr. R. J. Stilwell at Moorcroft, Hillingdon, on October 8th, 1907.

Among those present were Drs. David Bower, W. H. Bailey, H. Baird, A. Bowles, R. H. Cole, James Chambers, F. G. Crookshank, Augustus C. Dove, R. Langdon-Down, F. Edridge-Green, J. Francis Dixon, David Hunter, J. Higginson, H. E. Haynes, T. B. Hyslop, G. H. Johnston, P. G. Kennedy, J. Gordon Munn, E. D. Macnarmara, J. J. Murphy, H. J. Macevoy, Mary E. Martin, E. S.

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Pasmore, J. P. Race, W. Rawes, H. J. Stilwell, G. E. Shuttleworth, G. H. Savage, J. Stewart, A. H. B. Stoddart, E. F. Sall, G. N. O. Slater, T. Outterson Wood, F. Watson, and R. H. Steen (Hon. Sec.).

The visitors included Drs. Parry, C. R. Wood, R. Brown, and Mr. J. Stilwell.

Apologies were received from the President and Drs. J. Bayley, Fletcher Beach, Bond, Boycott, Edwards, Elkins, Haslett, R. Jones, A. S. Newington, H. H. Newington, P. C. Smith, Percy Smith, A. De Steiger, Seward, Taylor, and Thomson.

The house, adjoining villas, and Hayes Park were inspected, and subsequently Dr. R. J. Stilwell entertained the members to luncheon. At the termination of the lunch Dr. T. Outterson Wood proposed a vote of thanks to Dr. R. J. Stilwell for so hospitably receiving the Division.

A meeting of the Divisional Committee was held at 2.15, Drs. Crookshank, Dixon, Langdon-Down, Slater, Stoddart, and Steen being present.

The general meeting was held at 3 p.m., Dr. T. Outterson Wood in the chair. The minutes of the last meeting having appeared in the JOURNAL were taken as read and confirmed.

The invitation of Dr. Seward to hold the spring meeting of the Division at Colney Hatch Asylum on April 28th, 1908, was unanimously accepted, with much pleasure.

Dr. Charles A. Mercier having, with regret, resigned his seat on the Council as Representative Member for the Division in that as President elect he is a member of the Council, Dr. H. Wolseley Lewis was unanimously elected Representative Member for the Division.

CONTRIBUTIONS.

"A Short Account of Moorcroft, Past and Present," by R. H. Cole, M.D.

In response to the invitation of our Divisional Secretary to contribute to the meeting to-day, it was thought possible that a few remarks dealing with the development of this institution, which for nearly a century has been an asylum for patients of the upper classes, might not be without interest. It would seem also to be an opportunity for reviewing our work, and for observing what advances have been made in the treatment of patients of this class.

The conditions of our practice here are somewhat different from those of most asylums, inasmuch as our patients are by no means under one roof. Indeed, our work resembles a system of colonies, the component units of which extend into our two neighbouring parishes; thus our male patients, with occasional exceptions, live here in Hillingdon, whilst our female patients, for the most part, reside in Hayes. It is hardly possible for one medical officer to make an efficient and complete round in the course of the morning, as this may entail a visit to nine or ten houses and villas, some of which are situated about a mile apart from one another.

Moorcroft, the parent institution, was officially opened as a house for the reception of the insane on July 1st, 1816. The great-grandfather of our colleague, Dr. Reginald Stilwell, lived here at that date. Tradition states that his family offered a homely shelter to occasional cases even earlier still. Most of these cases appear to have been derived from the immediately surrounding district, but its easy access from town soon commended it to some London physicians as a convenient home for treating their patients in these pre-asylum days, and no doubt stimulated the growth of the institution.

We have some early pictures of Moorcroft, which may be of interest to you in illustrating what the place was like in these olden times, and we will point out where the extensions were made. We are informed that the customary dress of the patients at this period consisted of nankeen breeches, a buff waistcoat, with a stock and a blue frock coat with brass buttons, and no one appeared in the garden without a silk hat.

On examining the files containing the old admission papers, which may interest you, we find the document for the reception of a patient was indeed simple in these days, and we hand round specimens for your inspection. You will observe that merely a written note from the medical attendant requesting the admission of a patient was all that was required. The earliest that we can find are dated 1816.

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During the ensuing four years the same procedure seems to have been followed. These letters were probably only looked upon as safeguards for those receiving the patients, and might be of use in the event of subsequent proceedings for supposed illegal detention, and were no doubt usual at this period.

In 1820 we notice the first printed form. This was called a medical certificate, but no facts indicating insanity were stated therein. It served the purpose, however, of showing that the patient had been personally examined by a medical man whose opinion was that suitable confinement in a licensed house was necessary and proper.

Nine years later, namely in 1829, new forms came into use, whereby two separate medical examinations were necessary, but even then the certificates were of a similar simple character. These were accompanied by an order of the patient's relative or guardian, together with a statement of particulars which was in duplicate, and involved the responsibility of the certifying medical men as well as that of the person who signed the order. Perhaps the object of this was to corroborate the identity of the patient.

This method continued for the next sixteen years, which brings us to the year 1845, when the basis of our present certificates was formulated. Facts indicating insanity were then for the first time insisted upon, and, indeed, the certificates were in substance much as they are now, but they appeared on the same sheet of paper. This, as you are aware, was altered in 1890, when the order of a magistrate, on the petition of a relative, was introduced.

The first report by officials that we can find here is dated in 1828, so that it is improbable that the house was ever visited before that time by the commissioners appointed by the College of Physicians. The house being embraced within the sphere of the Metropolitan Commissioners, who were appointed by the Home Secretary in that year, was subject to regular visitation by them four times annually until the present Board was constituted in 1845, since which time the visits have been increased to the present number.

The gradual development of Moorcroft and its annexes has been the natural outcome of the increasing number who have applied for treatment. It has been the ambition of the proprietors to make such improvements as are possible with old buildings to give adequate accommodation to the class of patients that is received, and to keep abreast of all modern tendencies in the care and treatment of the insane.

The oldest part of Moorcroft House dates back to Tudor times and forms the central part of the present structure. With greater foresight than was shown in many contemporary houses the original designers fortunately planned the building in such a manner that the principal living rooms face south. At this period it was a farmhouse and the front door was where the garden entrance to the smoking room now is. The age of this room is established by what remains of the original fireplace and its supporting oak beam. The characteristic bricks and their arrangement in herring-bone pattern deserve notice. There is also a portion of the old masonry to which additions have been made in recent times. The window frames in this room, the adjoining dining-room and in the bedrooms above on the first floor, indicate the extent of the first house. The electricians found considerable difficulty in wiring this portion of the building for lighting purposes owing to the thickness of the floors.

There are small cellars below this part, and it is recorded that ten priests were once concealed there for four days, having sought a hiding place in the days of their persecution; a priest-hole perhaps secure, if not comfortable, since it is mentioned at that time the floor was covered some inches in water. Reference is made to this in a book entitled *Secret Hiding Places in England*, by Mr. Fae.

The kitchen and offices for the steward, etc., are at the back of the central part of the house and they have been modernised from time to time.

Both sexes were at first tended in Moorcroft House itself, and the numbers increased year by year so that there were 18 in 1837, 25 in 1840, 30 in 1843. Extensions became necessary, another storey was superimposed, and the structure was augmented in both easterly and westerly directions. In 1848 Woodend House was acquired and the ladies were transferred to that establishment in order to give more accommodation to the gentlemen. The west wing which contains the large general sitting-room, attendant's quarters, and dispensary was built in 1876, and is

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that part of the present building which is used by our less tractable patients. The east wing was added in 1891 and has served largely as a family residence of our colleague's parents, Mr. and Mrs. John Stilwell, who undertake the lay management of the institution.

The license for Moorcroft is granted for 48 patients, including 8 ladies, who are accommodated at Laurel Lodge and the cottage.

The Lawn—the house in the front garden, formerly occupied by Dr. Henry Stilwell, who retired last year after forty-six years' service, is now used as a reception house for borderland cases or for a single certified patient. There is also a separate villa at the farm, which has been used as occasion arises, and we frequently have single cases in houses in the district further afield.

The extent of the gardens, orchard, and pasture lands comprises nearly sixty acres of ground surrounding Moorcroft. The cricket ground is largely patronised, and there are ample walks for those patients who are unable to take their exercise beyond the grounds. The flower garden is used for convalescent and quiet patients, and here the usual tennis courts, croquet lawns, golf and bowling greens are provided. The billiard room is built away from the house, which in our opinion has some advantages.

Church services are held morning and evening every Sunday in the large general sitting room in the west wing, where also our entertainments usually take place. The fire arrangements consists of hydrants and hose, both inside and outside the house, connected with a water supply of considerable pressure. We also have Minimax extinguishers to be used in case of need. Periodical fire-drills are practised by the attendants under the superintendence of one of the medical officers.

Woodend House and Hayes Park, where most of our ladies reside, are licensed for 19 each, and were opened in 1848 and 1849 respectively. The former is an old-fashioned building with a delightful old garden, and is very comfortable. It is said to be on the site of a former house which served as a hunting-box for Henry VIII. Hayes Park, which was annexed five years ago, is a more modern mansion standing in sixty acres of ground. It has some separate villas, in one of which our colleague, Dr. Higginson, the special medical officer resides.

Our registers show that over 1300 cases (700 males and 600 females) have been under treatment since the three licensed houses were opened. The average numbers in residence during the past five years are 39 gentlemen and 39 ladies, excluding a few single cases and voluntary boarders, whilst the admission rates on the licenses during this period consists of 11 gentlemen and 18 ladies, 29 in all per annum. These numbers vary considerably in individual years and depend to some extent on the vacancies which arise, and we usually have more changes on the female than on the male side. Our recovery rate, according to our books of the last quinquennium, excluding the transfers on admission, works out at 39·5 *per cent.* for our gentlemen, and 44·7 *per cent.* for our ladies. The death-rate in the same period has been 5·3 *per cent.*, or 8·7 *per cent.* for the gentlemen, and 2 *per cent.* for the ladies. These figures are of little value with our small numbers, but apparently we have progressed during the past half-century, for, on taking the five years, 1839 to 1843, the statistics of which are available, in the Commissioners' reports we notice that the recovery rate for both sexes in this asylum was 19 *per cent.* and the death-rate was 10·2 *per cent.*

With regard to our patients we regret that we are unable to give you any demonstration of them as can be done with pauper patients, especially as we have some of great interest. We do not appear to receive so many cases of acute mania as in former years. Delusional melancholiacs with refusal of food and suicidal tendencies, paranoiacs, and cases of dementia præcox are very prevalent amongst our recent admissions. General paralysis we receive practically on the male side only, and we have as many as five in the house at the present time, all of whom have a reliable history of specific infection. During the past five years they form 7 per cent. of the total admissions—in one of these years we received as many as seven, whilst in the previous year not one was admitted. During the past sixteen years we have had 30 cases, including one juvenile general paralytic. Their average age has been forty-four, the youngest being 27, the oldest 62. Two have lasted over six years, but their average duration has been two and a half years. Latterly we have found the operation of lumbar puncture to be helpful in establishing the diagnosis in doubtful cases.

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We endeavour to trace family histories with special regard to hereditary taint, but it is difficult to obtain accurate information inasmuch as the relatives of private patients wilfully mislead us in the matter. We do not propose to discuss etiological factors, but we would like to mention that alcohol, in our opinion, plays but a small part as a causative agent in our cases. This we believe to be in accord with the experience of most private asylum medical officers.

As to treatment our aim has been to guide our patients through their attacks with the feeling of as little restraint as possible. This has entailed no little anxiety at times, although our staff of nurses and attendants is adequate. The convalescing patients are encouraged to feel the freedom of an ordinary country house, and are duly classified and separated from those of a more disturbing nature. We try to individualise our treatment as much as possible, and we believe greatly in the beneficial effect of the sane on the insane mind. Besides the gentlemen companions that are engaged as occasion arises the medical officers devote a large proportion of their time to the patients, for it has not seemed right to leave sensitive and convalescing patients of the upper classes too much to the care of attendants. It has always been difficult to induce our patients to take up manual work; we endeavour, however, to promote this object by encouraging them to assist in some of the lighter occupations connected with the farm and garden. To amusements rather than work we are bound to have recourse to find employment for them. Bicycling, motoring, and horse exercise are encouraged, as well as the usual pastimes and recreations.

With regard to medicinal treatment, on examining some of the old case books, one notices with surprise the large amount of opium that was administered in former years to allay excitement. Tartarated antimony seems to have been a favourite remedy for acute cases. The blue pill and black draught were freely given for the benefit supposed to be derived from a reducing effect. Our ideas have changed since then, for now we feed up our patients who are in a state of excitement, and our melancholics are washed out in accordance with modern toxæmic theories. We share the views held by the Association generally as regards the sparing use of hypnotics and sedatives. These, however, we have to give in obstinate cases of insomnia or where restlessness persists, and the new drugs are given a fair trial directly their virtues are extolled. It has been customary to rely a great deal on bromides judiciously administered sometimes in large doses, believing as we do that the bromides are less harmful than the more complex and modern drugs, especially to highly organised brains. Great things were hoped for when thyroid was first introduced as a therapeutic agent in mental diseases, and, although we have observed excitement supervene in cases of stupor from the administration of this drug, we cannot claim a recovery from its use.

Through the kindness of Dr. Ford Robertson and Dr. McRae, of Edinburgh, we have lately been enabled to treat two cases of general paralysis with their antidiphtheroid serum. Both have shown marked improvement, whether *propter hoc* or *post hoc* we are not prepared to say. The one aged twenty-seven was first injected last Christmas after six months acute and violent excitement. To the other, aged forty-one, of a melancholic type, the serum was first administered in March shortly after admission. Twenty c.c. of the injections were given subcutaneously once a week, but latterly the serum has been poured through the nose or taken through the mouth. On every occasion there has been a slight feverish reaction, which we are informed does not take place in non-general paralytics. The first patient has so far recovered as to return to his wife, and continues to have the serum under our supervision in town. The other patient is still here, and shows certain improvement. Both still exhibit motor signs of the disease, but it is possible that a remission of mental symptoms at any rate may have been assisted by the use of this serum.

Treatment by baths plays a small part here, and, as in other institutions, we use the bath to subdue cases of excitement. The electric bath is also used from time to time for some of our neurasthenic cases. We do not treat our acute cases in bed so much as is customary in public asylums, but cases of acute delirious mania, cases of exhaustion, and melancholics with determined suicidal tendencies are kept in bed. We prefer still to let our acute manias expend their excitement as much as possible in the open air. We feel, in spite of what has been said against it, that it is better to have a healthy outlet for the morbid energising of the brain,

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rather than to subject a restless or violent patient to the restraining influence of enforced rest in bed during the daytime.

Open-air treatment for the insane is under discussion at the present time. Last year we treated a case of melancholic stupor in an open-air tent in the garden during the summer months with some improvement in the patient's general condition, although mentally there was practically no change.

Hanwell being in such close proximity to us, the dominant influence of Conolly made itself felt here from the commencement of his movement against the use of mechanical restraint. It appears from the past records that but little restraint was ever used at Moorcroft, and we have not been able to find any implements such as are exhibited in some of our old asylums. We still believe that a strait waistcoat has its proper place as a remedial agent to prevent injury to self or others in some cases where struggling with attendants would otherwise ensue. So also seclusion is, on rare occasions, practised here, and we find the benefit of a padded room. In cases of refusal of food our custom, as a rule, is to use the nasal tube with a funnel, our experience being that this is the best form of forcible feeding when this is impossible by means of a spoon. There are some antiquated stomach pumps here, but they are never used now, although sometimes the large œsophageal tube is passed in order to administer food of a thicker consistence or where the nasal tube is difficult to pass.

Suicidal attempts have occurred here as at most asylums. As each patient sleeps in a separate bedroom we have no system of partial supervision at night such as we can exercise in the day time. As a patient improves there comes a time when the presence of the attendant can be dispensed with to test the patient and to promote recovery, and we have to rely on our judgment in this matter. Casualties from actual violence affecting the medical officers and others have been rare, although not unknown, but we are glad to say nothing serious has ever happened. Occasional escapes have been made, but on the whole the system of parole given to patients has not been abused. Very rarely has any trouble arisen from patients when out for recreation, but we could mention instances of chronic patients, usually quiet and manageable, breaking out suddenly into excitement, so that one feels an insane person can never be implicitly trusted.

Our attendants' staff at Moorcroft consists of a head attendant and sixteen others, and a night attendant who makes hourly rounds. Extra attendants are engaged for suicidal cases. At our ladies' establishments we have twenty-one nurses who are supervised by six lady companions. The attendants for the most part live in cottages in the district, and are not prohibited from marrying. They therefore remain long in our service. A father and son in more than one instance have been employed at the same time. Our senior attendant, who can count upwards of forty-five years' service, and has been awarded the gold medal of the Asylum Workers' Association, has during the past year been placed on the pension list by reason of ill-health. We make it a rule now to insist on all new comers to our attendants' staff being total abstainers, and we have no difficulty in finding men willing to be teetotalers. A course of lectures is given each year for the instruction of nurses and attendants, many of whom possess the nursing certificate of the Medico-Psychological Association. They are encouraged to join the A.W.A., and to take a general interest in their calling. We prefer to engage as attendants for the most part men retired from the services, especially those who have been accustomed to valet and wait upon gentlemen.

Moorcroft being originally a family residence, its influence as such has been maintained to the present day. The two lady companions on the male side we find of the greatest assistance in promoting the patients welfare. No harm has ever come to them from their freely mixing with the quiet and orderly patients, and their presence has a distinctly humanising tendency. It must be remembered that more than half our patients are chronically insane, and therefore the general arrangements have to be adapted for their comfort and happiness, and it has been our object to make them feel their position as little as possible. Our dependencies being separate afford opportunities for frequent parties and entertainments, where those of both sexes who are well enough assemble together, and this association has a social and beneficial effect.

Moorcroft, like most other private asylums in the country, seems to have fulfilled its purpose to the satisfaction of the public and profession alike judging

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from its steady development in the past. As to the future we cannot increase our numbers as public asylums do, for, as you are aware, no extension of a license is permissible; we therefore try to improve our accommodation year by year for those included in the licenses, and take a few extra patients when their mental state permits in villas outside. We are in accord with the proposed clause in future lunacy legislation as to the notification of incipient cases of insanity. In the present state of public feeling this will be a great relief to those who have the horror of certification at the outset of an attack of insanity. Looking ahead at the probable future expansion of London it is not unlikely that the work here may some day have to be moved further afield. However, for the present we are in rural surroundings in a reposeful atmosphere, and our patients can still take their walks in country lanes.

Having made an inspection of our establishments this short account is merely meant to serve as a supplement, and may possibly provide material upon which some members of the division may feel inclined to raise a discussion as to the management of private patients. We shall therefore be glad of any criticisms and suggestions that may help us to further improve the condition which we have at present reached in our work at Moorcroft and its dependencies.

In the discussion which followed, the CHAIRMAN expressed the gratitude of the Division for the very interesting paper contributed by Dr. Cole, and in commenting upon the admirable nursing arrangements at Moorcroft he hoped that the word attendant would soon be banished, and that the word nurse would take its place for all those of both sexes who tend the insane.

Dr. BOWER stated that his own figures with regard to alcohol corresponded with those of Dr. Cole, and pointed out how they differed from those in the Blue Books. He believed that in many cases the alcoholic intemperance was more the result of the insanity than the cause of it. The supervision of the suicidal patients was an important question, and he often found difficulty in deciding as to when total supervision could best in the interest of a particular patient be withdrawn.

Dr. STEWART followed, and stated that in his opinion in 70 *per cent.* of the inebriates the inebriety was not the result of alcohol, but that the taking of alcohol to excess was the result of the inebriates being neurotics.

The Medico-Psychological Association should let the public know that it is not satisfied that alcohol is the cause of insanity to the extent it is supposed to be.

Dr. SAVAGE, in thanking Dr. Cole for his paper, pointed out the many advantages to be found in private as compared with public asylums. Among these he would specially mention the great individual care which was possible, in a well-managed private institution.

Dr. COLE replied.

"Babinski's Conception of Hysteria." By W. H. B. Stoddart, M.D.

I am only too well aware that there may be several members of my audience to whom Babinski's views as to the nature of hysteria are familiar, and who may have come here under the misapprehension that I am about to offer a criticism of those views. To such I offer my apologies, for, at the outset, I wish to say that I am in entire agreement with Babinski in this matter, and I propose merely to give an exposition of his views, believing that they are not as well known in this country as they deserve to be.

The very name of the disease already predisposes to a misconception as to its nature, being derived from a Greek word ὕστερα, meaning the uterus; it being supposed in former times that hysteria was the result of some functional disturbance of the generative organs, perhaps sexual excess or sexual deprivation. With subsequent experience, however, we have come to learn that hysteria has nothing to do with the uterus, since it occurs almost as frequently in men as in women, and it occurs in children before the onset of puberty, and in old people after the sexual functions have become extinct.

Now Pye-Smith used to submit that the essential features of a good name for a disease were that it should be short, classical, meaningless, and capable of forming an adjective. The word hysteria possesses all these characteristics, if you will allow it to become meaningless. Just as you allow the word artery (a structure containing air) to be meaningless, so far as its derivation is concerned; there will

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then be no reason why we should not retain the name "hysteria" for the disorder we are about to discuss.

It is necessary, however, that the disorder known as hysteria should be defined. If you will take the trouble to look up the definition as given by various authors, you will find that there is no unanimity of opinion; and some authors, especially Lasègue, go so far as to say that the definition of hysteria has never been given and never will be.

This is a deplorable state of affairs. To say that words, which we intend to retain, cannot be defined is as much as to suggest that words precede ideas. What would you think of a naturalist who said that it was impossible to define some zoological species, whose existence he admitted?

We must admit either that hysteria is a nosological entity with definite characteristics, and therefore capable of being defined, or that we are confusing it with other neuroses, to which the various cases, hitherto called hysterical, will have to be relegated. Such are the alternatives to which we are inevitably led, and I believe that no neurologist would hesitate to accept the former. The majority of medical men who have written on hysteria have not contested the possibility of a definition, but they have not felt equal to enunciating one, which even they themselves could regard as satisfactory.

Hysteria, according to the commonly accepted view, is characterised by a certain grouping of symptoms, and it is only possible to define it by describing these symptoms succinctly and showing how they are related to one another.

It is generally said that hysteria is manifested by two different kinds of disorder, the first being permanent—the stigmata of hysteria—and the second being transitory. The stigmata, to which great importance is attached, have the characteristic that, besides their fixity, they develop unknown to the patient. They are anæsthesia of the back of the throat, hemianæsthesia consisting, when well developed, of abolition of cutaneous sensation in its various forms, unilateral diminution of the acuity of the special senses, especially of vision, with concentric retraction of the visual fields, monocular diplopia or polypia, and a dyschromatopsia which, unlike that of tabes and alcoholism, affects blue and violet, while perception of red remains normal. The characteristic headache known as clavus hystericus, ovarian hyperæsthesia and submammary tenderness are also reckoned among the stigmata. Among the transitory phenomena are included such symptoms as hysterical convulsions, paralyses, contractures, aphonia and mutism. These usually appear quite suddenly, perhaps under the influence of some emotion, they last some time and then disappear just as suddenly, perhaps to give place to some other transitory phenomenon.

Such is the classical conception of hysteria. It follows that when one is confronted with a patient presenting any of the transitory hysterical manifestations, one proceeds to look for the stigmata; if they are present there is no longer any hesitation as to the diagnosis of hysteria. Many are not even as exacting as this; when any given symptom appears to them difficult of interpretation and cannot, in their opinion, be ascribed to any other neurosis, they feel justified in calling the symptom hysterical, provided they can discover any of the hysterical stigmata in the patient.

By such a method of procedure, the most varied symptoms are at times classed as hysterical. You will gain some idea of the extent to which this principle may be carried, if I enumerate some of the disorders which have been ascribed to hysteria.

Without referring to the convulsions and anæsthesias already referred to, we have paralyses of all kinds, hemiplegias, monoplegias, paraplegias, as well as paralyses limited to the distribution of one or more peripheral nerves, such as musculospiral paralysis, and paralyses of the third or sixth pair of cranial nerves. Hysterical neuralgias are also described, especially hysterical sciatica.

Divers forms of mental disorder are also at times attributed to hysteria.

The visual apparatus is held responsible for a wealthy array of hysterical manifestations; besides the diminution of visual acuity, retraction of the visual fields and ocular paralyses, already mentioned, hysteria is held responsible for pupillary immobility during the convulsions, and even between the convulsions, as well as for inequality of the pupils and abolition of the light reflex.

Cutaneous and vasomotor troubles are also from time to time ascribed to hys-

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teria:—Erythemata, hæmorrhages, petechiæ, bullæ, ulcers, and even gangrene. Numerous observations of hysterical œdema, especially œdema with cyanosis, have also been published.

Among hysterical disorders of the respiratory system, we hear of aphonia, mutism, spasm of the glottis, œdema of the glottis, pulmonary congestion and hæmoptysis.

Tachycardia, bradycardia, and angina pectoris are also sometimes described as hysterical. Gastralgia, vomiting, hæmatemesis, polyuria, anuria, hæmaturia, albuminuria, incontinence and retention of urine have all been described as manifestations of this neurosis.

Lastly, hysterical fever has frequently been described, and recently cases have been put on record, which have been considered indisputable. This is an incomplete list; but it will give you some idea of the various ways in which it is supposed that hysteria may manifest itself. Charcot used to say that hysteria was the great simulator; a more recent way of expressing the same opinion is, "Hysteria can do anything." There are plenty of medical men who are quite ready to accept such a view, since it conforms quite readily to their nebular conception of hysteria; but I think most of you will already have come to the conclusion that such a conception of hysteria is too wide.

I will now subject this conception to criticism, using, as far as possible, Babinski's own words, but, of course, substituting English for French.

First, let us consider the stigmata which, according to the classical doctrine, are of fundamental importance. Fixity or permanence is regarded as one of their essential features. We believe, however, that we are justified in contradicting this assertion, since for many years we have found that, whenever we are confronted with a patient presenting hemianæsthesia or contraction of the visual fields, we endeavour to cause these disorders to disappear, and, except in the case of those patients with whom hysteria is their profession and a source of income, we have succeeded in every case. When I have before me a patient presenting hysterical hemianæsthesia or general anæsthesia, however complete it may at first sight appear to be, transfixion of the integuments with a needle evoking no evidence of painful perception, I proceed as follows:—I apply to the pulp of the fingers two electrodes (one being a stiff wire brush) connected with a faradic battery giving a maximum current. Nineteen times out of twenty the patient withdraws his hand and makes a grimace denoting painful perception. Some of these patients will not allow the electrodes to be applied again, they prefer to go to some other doctor, whose electrical apparatus may be undergoing repair; others, who, I am glad to say, are in the majority, recognise that they have experienced the sensation, and wish to continue treatment. I then repeat the application with the assurance that it is an infallible cure for anæsthesia; and—as I have said—one meets invariably with success, the cure sometimes being effected at a single sitting. By analogous proceedings we can easily cure contraction of the visual fields, dyschromatopsia, and anæsthesia of the throat which, by the way, is *incorrectly* called "loss of the pharyngeal reflex," for reflex excitability is never abolished in these cases.

The second cardinal feature of the stigmata is that they develop unknown to the patient. Now, we are of the opinion that these phenomena are the result of autosuggestion, or rather of unconscious suggestion on the part of the medical man, a view which has previously been advanced by Bernheim, of Nancy. The usual mode of examination of a hysterical patient is of such a nature as to suggest to his mind the idea of hemianæsthesia or of some visual disorder; it is, therefore, of the utmost importance to take every precaution to avoid this fallacy.

It is inadvisable to examine these patients before others, or to talk to one's students before the patient about symptoms which may be observed in hysteria. The same circumspection should be observed when the patient is in a convulsion and apparently unconscious, seeing that we have to deal rather with a case of subconsciousness, in which every remark made in the patient's presence will be remembered. Before examining sensation it should be explained to the patient that he will feel light touches, pinpricks, pinches, sensations of warmth and cold, and that he will be required to say *what* he feels on each occasion. The various stimuli should then be applied, and interspersed with passive movements of the limbs. If there is no response, say "What do you feel, what did I do to you?"

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But never say "Did you feel that?" or "Do you feel as well on one side as on the other?" because such a way of putting the question suggests anæsthesia to the patient. By adopting this method for many years Babinski has not found a single case of hemianæsthesia among patients, who had not *previously* been submitted to a neurological examination. Babinski's experience extends to more than one hundred such patients who were undoubtedly hysterical.

Similarly, contraction of the visual fields does not develop spontaneously without the influence of suggestion. You are all well aware of the usual method of investigating this symptom. The patient is placed in position before a perimeter, and he is asked to say, as the carrier is moved forward, when he sees the piece of paper which is placed in it; or, as the carrier is moved backward, when the paper disappears. This mode of procedure is insufficient and fallacious. Vision is normally indistinct at the periphery of the field, and a hysterical patient is liable to wait until his perception of the paper is perfectly clear, thus leading the observer into error, and serving as a point *d'appui* for subsequent suggestion and autosuggestion. It ought first to be explained to the patient that he is to make some sign as soon as he is able to say that there is anything there, and that he is not to wait until he has a clear perception of the paper. The carrier should occasionally be advanced without any paper in it, so as to ascertain that the patient is not making random shots, and it should be alternately advanced and retired so as to get the maximum visual field. Examined in this way none of Babinski's patients exhibited contraction of the visual field, provided they had not previously been subjected to similar ophthalmic examinations. Similarly, Babinski has never met with monocular diplopia or polyopia or so-called dyschromatopsia, *i. e.* among new patients. And similarly with the other stigmata, such as ovarian hyperæsthesia, they are all the result of suggestion.

Thus, gentlemen, you see that the symptoms called stigmata are not permanent phenomena, and that they do not develop unknown to the patient; they are found to be wanting, at least in the majority of cases, when the examination is carried out in the manner which I have indicated. They are not of that fundamental importance which the classical conception of hysteria attributes to them; and definitions of hysteria founded on their existence must find themselves shaken to their foundation.

Passing to the transitory manifestations of hysteria I will endeavour to show that, of all the characteristics above enumerated as contributing towards a definition of hysteria, there is not one which ought to be retained. That emotion plays an important *rôle* in the genesis of hysterical troubles is incontestable; but it may also be responsible for attacks of asthma, gout, circulatory troubles in patients suffering from certain vascular lesions, and even for the onset of diabetes; this feature is therefore not characteristic of hysteria, and can take no place in the definition. Nor can rapidity of disappearance be regarded as a special feature of hysterical phenomena; the pain of a renal colic or of a tabetic gastric crisis may disappear quite as suddenly. And as regards one manifestation clearing up and giving place to another, the same thing occurs in gout. Finally, hysteria is not the only malady which, as a rule, causes no disturbance of the general health; psychasthenics (patients who suffer from obsessions, morbid impulses, and morbid fears) enjoy good general health.

You see therefore, gentlemen, that the classical definition of hysteria cannot stand the test of criticism, either when examined as a whole or in respect of any of its details.

In order to frame a definition of hysteria it is necessary to determine and to enunciate the features which are peculiar to it. To do this we must analyse such nervous manifestations as hysterical fits, certain contractures, hemianæsthesia, monoplegia, and other paralyses and manifestations, all of which medical men are unanimous in regarding as hysterical; and we must compare them with those nervous troubles which, in the opinion of everybody, are certainly not hysterical. We shall then be able to judge of the distinctive characters of hysteria.

Having cleared the ground in this way Babinski is led to the conclusion that hysterical manifestations possess two attributes, viz.:

(1) The possibility of being reproduced by suggestion, with rigorous exactitude, in certain subjects, and

(2) The capability of disappearing under the *exclusive* influence of persuasion.

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Babinski draws an important distinction between suggestion and persuasion. Suggestion signifies the action by which we endeavour to make someone accept or realise an idea which is manifestly illogical. To tell someone whose muscles are functioning normally that he is hemiplegic or paraplegic is to *suggest*, but to declare to a patient with functional paralysis that he will get well, either by a simple effort of will, or by the aid of electrotherapy or other treatment, is to persuade, for the idea is reasonable or at least it is not an offence against reason.

To continue our argument. The symptoms undoubtedly hysterical, which I have already mentioned—fits, hemianæsthesia, and so on, can in certain subjects be reproduced by suggestion so faithfully that it is impossible to distinguish the copy from the model; I need not insist on this point, for I would certainly find no one to contradict it. On the other hand, any of the classical affections now regarded as non-hysterical can *not* be exactly reproduced by suggestion. One may, perhaps, obtain a very imperfect imitation, which it would be quite easy to distinguish from the original; but I defy anybody to reproduce by suggestion to any individual, however suggestible or hypnotisable he may be, the characters of a peripheral facial palsy, musculo-spiral palsy, paralysis of the oculo-motor nerves, organic hemiplegia or organic paraplegia. It would even be impossible to obtain a faithful reproduction of other neuroses. Assuredly, one might produce by suggestion a morbid fear, an obsession or a pain in the head, and one might thus create states of mind which might be mistaken for psychasthenia or neurasthenia by a superficial observer, but a medical man, familiar with these affections, would not allow himself to be so easily deceived, he would interrogate such subjects attentively and, if necessary, would *follow* the case for some time to avoid confusion.

Just as all the major hysterical manifestations may be reproduced by suggestion, they are susceptible of being dispelled under the exclusive influence of persuasion, and there is not one of these manifestations, which one has not at some time or other seen dispelled a few moments after adopting the proper means of inspiring the patient's confidence in a successful termination. This occurs in no other affection, and, if one has had no experience in this method of treatment, one is surprised at the setbacks one receives when one attempts to cure by persuasion certain patients, with whom one would, *à priori*, expect this method of cure to be efficacious. Take the case of a patient suffering from obsessions, probably an intelligent man, having no delusion and fully realising the absurdity of his thoughts, knowing that there is no ground for his fears, and animated with an ardent desire to get rid of a trouble which renders his life intolerable; let us suppose, further, that this patient is readily hypnotisable. Such a case appears to offer the most favourable conditions for cure by persuasion. But experience gives the lie direct to such preconceived notions; persuasion may procure for the patient a certain degree of calm which is *useful* to him; but it is incapable of *curing* him. Again, let us suppose that we have to deal with a neurasthenic who is in constant fear of mental enfeeblement, and is tormented by hypochondriacal ideas that he cannot chase away; he beholds himself threatened with insanity, and this obsession, which is a real mental process, aggravates his neurasthenic symptoms. If one can manage to persuade the patient that his fears are ill-founded, and that therefore he ought to get well, one procures that mental rest which is indispensable for him, and which accelerates his return to normal health. The psychotherapy has done good, it has accelerated the amelioration of the patient's disorder, but it has not been the *sole* means of cure; in such cases, we have recourse to other means, especially mental and physical rest more or less prolonged.

I have so far referred only to the primary manifestations of hysteria, such as anæsthesiæ, paralyses, contractures, crises, mutism, etc., which may appear without having been *preceded* by *other* hysterical manifestations. I take it, however, that it is legitimate also to call those symptoms hysterical which, without presenting the characters of primary symptoms, arise as a direct result of these, and are dependent upon them. To such symptoms, Babinski applies the epithet secondary. Muscular atrophy in hysteria is of this kind; it never appears primarily; it cannot be induced by suggestion; it is entirely dependent on and subordinate to some hysterical paralysis or contracture. It is an atrophy from disuse—a *secondary* manifestation.

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You will say that I have only defined hysterical symptoms, and you would ask me to define hysteria.

I might reply that hysteria is a psychical condition rendering an individual, suffering from it, susceptible of suggestion and liable to autosuggestion; we have seen, in fact, that certain symptoms, such as hemianæsthesia and contraction of the visual fields are the result of medical suggestion and, in the cases in which the suggestion is not apparent, it is justifiable to conclude that we have been unable to trace it or that autosuggestion has been at play. But you may object that certain disorders, absolutely foreign to hysteria, are also the result of autosuggestion; is it not by some sort of autosuggestion that the hypochondriac comes to the conclusion that he is suffering from an incurable disease, or the paranoiac imagines that a conspiracy is at work against him? As a matter of fact, the mental process is quite different, for this reason:—The autosuggestions of the hysterical patient are susceptible, as I have just shown of being reproduced by suggestion and dispelled by persuasion; this is not the case with the delusions of the hypochondriac or the paranoiac.

It is, of course, impossible to separate hysteria from its manifestations; to do so would be to materialise an abstraction; and if we wish to remain within the realm of fact, on clinical terra firma, so to speak, it is the hysterical *manifestations* which we should seek to define. From such consderations, I now make a slight modification in the text of the definition which I have already given and, by way of *résumé*, I submit to you the following definition (Babinski's):

Hysteria is a peculiar psychical state which is capable of giving rise to certain conditions which have features of their own.

It manifests itself in primary and in secondary symptoms.

The former can be exactly reproduced by suggestion in certain subjects, and can be made to disappear under the *sole* influence of persuasion.

The secondary symptoms are in direct relationship and subordination to the primary ones.

In the discussion which followed the Chairman, Drs. Savage, McNamara, Dixon, and Crookshank took part.

Dr. STODDART having replied the meeting then terminated.

The members to the number of fourteen dined together afterwards at the Café Monico.

SOUTH-WESTERN DIVISION.

THE AUTUMN MEETING of this Division was held on October 25th, 1907, at Fisherton House, Salisbury, by invitation of Dr. Baskin, who kindly entertained the members to luncheon.

The following members were present: The President, Drs. Baskin, Ireland Bowes, Glendinning, Mackeown, Morton, Nelis, Eden Paul, Pope, Prentice, (the Hon. Div. Secretary), and one visitor.

The Chair was taken by the President.

William Edward Ruttledge, L.R.C.P.Lond., M.R.C.S.Eng., Assistant Medical Officer, Somerset and Bath Asylum, Wells, was, on the recommendation of Drs. Pope, Shera and Aveline, elected a member of the Association.

Dr. Pope showed plans and gave a short description of the York City Asylum, and Dr. Baskin read a paper on "Insane Movements," illustrated by a case.

The proceedings terminated in a vote of thanks to Dr. P. W. Macdonald for presiding, and to Dr. Baskin for his hospitality.

NORTHERN AND MIDLAND DIVISION.

The AUTUMN MEETING of the Northern and Midland Division was held, by the invitation of Dr. Middlemass, at the Sunderland Borough Asylum, Ryhope, on Thursday, October 17th, 1907, at 2.30 p.m. Dr. Middlemass presided.

The following members were present:—Drs. Archdale, Eades, Fraser, Geddes, Harris-Liston, Hopkins, Kershaw, C. MacDowall, T. W. MacDowall, Mackenzie, Merson, Miller, B. Pierce and Dr. Middlemass.

The following visitors were also present:—Dr. C. A. Drew, of the Massachusetts

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Asylum for Insane Criminals; Drs. Morgan and Hubbersty, of Sunderland; Rev. Dr. T. Randall.

The minutes of last meeting were read and confirmed.

A letter was read from Dr. Ewan, suggesting that the North and Midland Divisions should divide owing to the large area the joint district includes. The President, Drs. MacDowall and Miller doubted the wisdom of making any change, but on the motion of the President, seconded by Dr. Hopkins, it was resolved to refer the letter to the Divisional Committee for further consideration.

Dr. MERSON moved and Dr. ARCHDALE seconded that Drs. T. W. MacDowall, Hitchcock, and Macphail be reappointed to form the Divisional Committee.

As previously arranged it was announced that the next meeting would be held at Storthes Hall Asylum, near Huddersfield, on April 30th, 1908, at the kind invitation of Dr. Adair.

On a ballot being taken, Annie Davidson Urquhart, M.B., Assistant Medical Officer, Northumberland County Asylum, was unanimously elected an ordinary member.

Dr. Middlemass showed a patient with marked inco-ordination of the muscles of leg, arm, and those concerned with speech, accompanied by a spastic condition with some mental enfeeblement. The patient's elder brother, admitted at the same time with very similar symptoms, had died, and at the autopsy there was no evidence of insular sclerosis. In discussing the cases Dr. Middlemass suggested that they appeared to resemble what had been described by Westphal as "pseudo-sclerosis."

Dr. COLIN MACDOWALL read a Report on Three cases of Juvenile General Paralysis occurring in Female Patients (see page 112). In the discussion which followed, Drs. Middlemass, Morgan, B. Pierce, and Drew took part.

A member introduced an informal discussion on some of the lessons of experience, contrasting the present with the past, and dealing with many of the improvements that have occurred within his recollection. An interesting discussion followed. Dr. Drew, speaking for American asylums, said the assistant medical officers often had not sufficient inducement to stay and undertake scientific research. He discussed many recent methods of treatment, alluding to systematic washing out, to hydrotherapy, etc. Drs. T. W. MacDowall, Miller, and B. Pierce also joined in the discussion.

A vote of thanks to Dr. Middlemass for his hospitality concluded the business.

SCOTTISH DIVISION.

The HALF-YEARLY ORDINARY MEETING of the Scottish Division of the Medico-Psychological Association was held in the Hall of the Royal College of Physicians, Queen Street, Edinburgh, on Friday, 22nd November, 1907.

Present.—Drs. Bruce, Carlyle-Johnstone, Clouston, Gostwyck, Havelock, Hotchkiss, Ireland, K. D. C. McRae, Marshall, Mitchell, Oswald, Robertson, Turnbull, Urquhart, Yellowlees, and Marr (Divisional Secretary). Dr. Yellowlees in the Chair.

The CHAIRMAN, before proceeding to the ordinary business of the meeting, made appropriate reference to the resignation of Dr. Rutherford, one of the oldest members of the Association, from the post of Medical Superintendent of the Crichton Royal Institution, Dumfries. Such an event, he thought, could not pass without the Association recognising the great services rendered by Dr. Rutherford in the interests of lunacy, and moved that it be recorded in the minutes "that the members learned with heartfelt regret that illness was the cause of Dr. Rutherford's resignation, but hoped his retirement from active asylum service would be the means of restoring him to good health."

Dr. CARLYLE JOHNSTONE, in seconding the motion which was carried unanimously, also referred to the good work done by Dr. Rutherford concerning the welfare and treatment of the insane.

Apologies for absence were submitted from Dr. P. W. MacDonald, President of the Association; Drs. Campbell, Carswell, Easterbrook, and Keay.

The minutes of the half-yearly meeting of the Division held at Glengall Asylum, Ayr, on Friday, 22nd March, 1907, were read and approved, and the Chairman was authorised to sign them.

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The following gentlemen were admitted members of the Association, viz.:

John A. McLeod, M.B., Ch.B., Junior Assistant Medical Officer, Inverness District Asylum. (Proposed by Drs. R. B. Campbell, Keay, and Bruce.)

Alfred M. Gloag, M.B., Ch.B., Senior Assistant Physician, Inverness District Asylum. (Proposed by Drs. R. B. Campbell, Keay, and Bruce.)

Andrew Alexander Robertson Meek, M.B., Ch.B., Second Assistant Medical Officer, Gartloch Asylum, Gartcosh. (Proposed by Drs. Parker, Baugh, and Marr.)

Peter Horne Macdonald, M.B., Ch.B., Pathologist, Gartloch Asylum, Gartcosh. (Proposed by Drs. Parker, Baugh, and Marr.)

Charles G. A. Chislett, M.B., Ch.B., Second Assistant Medical Officer, Woodilee Asylum, Lenzie. (Proposed by Drs. Marr, Watson, and Carre.)

J. J. Harrower Ferguson, M.B., Ch.B., Senior Assistant Medical Officer, Fife and Kinross Asylum, Cupar-Fife. (Proposed by Drs. Turnbull, Clouston, and Marr.)

Arthur M. Dryden, M.B., Ch.B., Third Assistant Medical Officer, Woodilee Asylum, Lenzie. (Proposed by Drs. Marr, Watson, and Carre.)

Robert Durward Clarkson, M.D., B.Sc., M.R.C.P.(Edin.), Medical Officer, Scottish National Institution for Education of Imbecile Children at Larbert. (Proposed by Drs. Marr, Parker, and Watson.)

The motion by Dr. Urquhart, "That the Division proceed to elect a Business Committee for the Division; that it consist of three members who are at the same time ordinary members of the Council and of the Association" was laid before the meeting, and the matter having been fully discussed, it was agreed, on the motion of Dr. Carlyle Johnstone, seconded by Dr. Robertson, that the Committee be formed, consisting of the three official members of the Council, with two other members, to be elected. Drs. Carlyle Johnstone and Sturrock were thereupon elected.

It was remitted to the Business Committee to consider the most appropriate means of celebrating the jubilee of the present legislative system of lunacy in Scotland and to report to next meeting.

On the suggestion of Dr. Carlyle Johnstone, the question of retiring allowances for officials in Scottish asylums then received the particular attention of the meeting, and it was resolved that a committee be formed, consisting of Drs. Carlyle Johnstone, Urquhart, and the Divisional Secretary, to further the scheme.

Dr. Urquhart's proposal "That the dates of the meetings of the Division be fixed now" was the next item to receive consideration, and it was agreed that the half-yearly meetings be held on the third Fridays of March and November, the Secretary being instructed to report the decision in time for the May meeting of the Association. As regards the arrangements for fixing the dates of the clinical meetings, these were left in the hands of the Business Committee.

Dr. Marshall then read a paper on "Mental Symptoms with Brain Tumour," which was much appreciated.

Dr. Ireland gave a short account of the International Congress of Neurology held last September in Amsterdam, and to which he was a delegate of the Association. He spoke in warm terms regarding the manner in which the members of the Association were received by the Dutch. The only objection he had to the work of the Congress was that it was conducted in three divisions, viz. those of psychology, psychiatry, and the care and nursing of the insane. As the business of each of the three divisions frequently took place at the same time, and was of great practical interest, it was impossible that one could attend to all the several sections. He also intimated that the International Congress of 1908 would be held at Vienna.

This concluded the business of the meeting, and the chairman was thanked for presiding.

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IRISH DIVISION.

THE SUMMER MEETING of the Division was held at the Down District Asylum, Downpatrick, by the kind invitation of Dr. Nolan, on Thursday, July 4th, 1907.

The morning having been spent in a visit to various places of antiquarian interest in the neighbourhood, the members were shown over the asylum by Dr. Nolan, who subsequently entertained them at luncheon.

At the meeting afterwards Dr. C. E. Hetherington was voted to the chair, and there were also present Drs. M. J. Nolan, T. Drapes, F. E. Rainsford, C. Norman. R. R. Leeper, J. J. Fitzgerald, J. Cotter, and W. R. Dawson (Hon. Sec.). Dr. R. L. Donaldson, who had attended the preliminary proceedings, was obliged to leave at the commencement of the meeting. Letters regretting inability to attend were received from Drs. W. Graham, G. R. Lawless, and a number of other members.

Before reading the minutes, a unanimous resolution was passed, congratulating Dr. Conolly Norman on the honorary degree recently conferred upon him by Dublin University, and his election as Vice-President of the Royal College of Physicians of Ireland. Dr. Norman replied in suitable terms.

The minutes of last meeting were signed, and the Hon. Secretary reported with reference to matters contained therein.

A letter was read from Rev. T. S. Graham, on the death of Dr. R. A. L. Graham, thanking the members for a resolution of condolence passed at the last meeting of the Division.

The following were duly elected Ordinary Members of the Association, viz.:

Henry Richard Charles Rutherford, L.R.C.P.I., L.M., L.R.C.S.I., Assistant Medical Officer, St. Patrick's Hospital, James's Street, Dublin.

Thomas Aloysius Flynn, L.R.C.P.I., L.M., L.R.C.S.I., Assistant Medical Officer, Portrane Asylum, Donabate.

It was decided to hold the Autumn Meeting of the Division at the Royal College of Physicians, Dublin.

Dr. NORMAN having brought under the notice of the meeting the International Congress of Psychiatry, Neurology, Psychology, and the Nursing of the Insane, to take place at Amsterdam September 2nd—7th, 1907, the Hon. Secretary was directed to send postcards to all the members of the Division calling attention to same.

Dr. F. E. RAINSFORD read a paper entitled "A Case of Medico-legal Interest."

Dr. CONOLLY NORMAN made a communication entitled "Witchcraft and Demoniacal Possession."

Dr. M. J. NOLAN reported four cases of a condition probably akin to Amaurotic Family Idiocy.

A unanimous vote of thanks to Dr. Nolan for his kind hospitality having been passed, he replied, and the meeting terminated.

THE AUTUMN MEETING of the Division was held at the Royal College of Physicians, Dublin, by the kind permission of the President and Fellows of the College, on Tuesday, November 5th, 1907. Dr. Conolly Norman occupied the chair, and there were also present Drs. J. Mills, T. Drapes, R. R. Leeper, E. D. O'Neill, J. Lentaigne, M. J. Nolan, J. O'C. Donelan, M. J. Forde, and W. R. Dawson (Hon. Sec.). A letter was read from the President of the Association, regretting inability to be present. Letters to similar effect had been received from Drs. J. J. Fitzgerald, R. L. Donaldson, J. A. Oakshott and B. C. Harvey.

The minutes of the previous meeting were read, confirmed, and signed.

The Hon. Secretary reported shortly on a matter arising out of the minutes.

The following was unanimously elected an Ordinary Member of the Association, viz.:—

Patrick J. Dwyer, M.B., B.Ch., R.U.I., Clinical Assistant, Richmond District Asylum, Dublin.

The kind invitation of Dr. Leeper to hold the Spring Meeting of the Division at St. Edmundsbury, Lucan, was unanimously accepted with thanks.

A discussion then took place with reference to the best methods of securing assured superannuation for all Irish Public Asylums Officials. Finally, the

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following resolution was unanimously agreed to, on the proposal of Dr. NOLAN, seconded by Dr. O'NEILL, viz.:

"That the members of the Irish Division of the Medico-Psychological Association of Great Britain and Ireland hereby approve of the action taken by the Irish Asylum Officials Superannuation Committee, and beg to recommend the proposals made to the kind consideration of the Chief Secretary."

A resolution of thanks to Mr. John Redmond, M.P., for the kind support given by him to the representatives of the above-mentioned Committee was proposed by Dr. DRAPES, seconded by Dr. O'NEILL, and also passed unanimously.

A discussion on the best method of increasing interest in the work of the Association amongst the Assistant Medical Officers of Irish Asylums was opened by Dr. Leeper, and joined in by most of the members present. Several suggestions having been made, it was proposed by Dr. LEEPER, seconded by Dr. DAWSON, and resolved:—"That a Committee be formed consisting of Drs. Leeper, Norman, Nolan, Mills and Donelan, to consider the best method of promoting increased interest in the work of the Association amongst the Assistant Medical Officers: and that the Secretary to the Division be an *ex-officio* member of the Committee and the convener thereof." The last clause was added at the suggestion of the Chairman.

Dr. NORMAN brought forward a letter which he had received from Dr. Pilcz with reference to a Congress on the Nursing of the Insane to be held in Vienna, October 7th—11th, 1908, with a request that he would form a Committee, and stated that he was prepared to receive names of those desirous of attending.

Dr. DRAPES then read a paper entitled "The Unity of Insanity, and its bearing on Classification."

The meeting concluded with a vote of thanks to the President and Fellows of the Royal College of Physicians for the use of the College Hall.

In the evening the members dined together at the Shelbourne Hotel.

THE AMSTERDAM INTERNATIONAL CONGRESS.

Reported by W. W. IRELAND, M.D.

The International Congress for Psychiatry, Neurology, and Psychology was held at Amsterdam from the 2nd to the 7th of September. The opening meeting in the Municipal Concert Hall was honoured with the presence of Queen Wilhelmina and her husband Prince Henry, with a staff of officers and many distinguished citizens. Addresses were delivered by Dr. van Raalte, Minister of Justice, and Professor Jelgersma, of Leyden. Some national songs and hymns by Verhulst and Handel were beautifully sung by a choir of 200 ladies.

Next morning the proceedings of the Congress commenced in the rooms of the University. In the programme it was announced that there were delegates from sixteen countries of Europe and North and South America, besides Japan. Britain, Austria, and Portugal had none. There were also delegates to represent forty-two learned societies. The official languages were French, English, and German. Seven hundred and fifty members were enrolled.

The subjects were discussed in three separate rooms. There were two sittings each day, and nearly a hundred communications were announced in the programme.

Section 1 was devoted to Psychiatry and Neurology. Dr. L. J. J. MUSKENS, of Amsterdam, gave a demonstration, with lantern slides, of his researches about cerebellar connections, principally carried on with vivisections on the rabbit and the cat. He indicated that after entire removal of the flocculus cerebelli and staining by Marchi's method, no degeneration is found in the corpora restiformia or the spinal cord; but there is coarse degeneration of the middle third of the superior crus cerebelli. The ventral cerebello-thalamic bundle of Probst, or the bundle of descending collaterals of the superior crus after Pelizzi and Cajal, is in all cases degenerated on the other side.

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From observations in the cat's brain Muskens is led to believe that most of the fibres of the ventral cerebello-thalamic bundle may be considered as a part of the decussation of the superior crus; the only difference being that they cross the raphé more deeply in the pons.

As far as the discussion on the functions of the cerebellum went, it is apparent that we have not reached a clear idea of the functions of that perplexing organ.

Dr. JELGERSMA, with lantern views, gave a demonstration of numerous sections of the whole brain and cerebellum.

RAMON Y. CAJAL gave illustrations of the degeneration of the axis-cylinders of the cerebrum and cerebellum after traumatic injuries.

Dr. F. W. MOTT, commencing with a description of the lemur's brain traced the evolution in the sensory areas through the primates to the human races.

Dr. W. H. GASKELL, of the University of Cambridge, gave a demonstration of the evolution of the vertebral central nervous system, from which it was made to appear that vertebrate animals were descended from the arthropoda. Though researches in genealogy sometimes help psychology, it must be owned that this is going pretty far back.

There was animated debating amongst the French and Germans about the pathology of hysteria. The old difficulty is to find for it an organic basis. Dr. Pierre Janet insisted that it was a mental disease to be studied after the methods used in psychology.

Dr. ERNEST JONES, of London, read a paper on "The Clinical Significance of Allochiria."

Dr. DAVID ORR, of Manchester, and Dr. R. G. ROWS, of the Lancaster Asylum, gave a lantern demonstration of lesions of spinal and cranial nerves experimentally produced by toxins.

Dr. M. CHARTIER, of Paris, detailed some experiments on dogs and rabbits to show that cultures of virulent microbes injected into the carotids may become the cause of inflammations identical with acute hæmorrhagic encephalitis.

Drs. J. MOREIRA and A. PEIXOTO gave an elaborate communication on the Mental Diseases in Brazil. In this vast territory there is a great variety of climates: a tropical and a sub-tropical zone, with a range of mean temperature varying from 15° to 25° C. There are also towns situated at high elevations. Brazil is inhabited by a great variety of races, and Europeans have better health than in any other country so near the equator. Notwithstanding these diverse conditions, the learned professors assure us that they failed to find any variation or particular character in mental pathology. They have not even observed in the tropical climates any great frequency of insanities connected with malarial fevers.

Their leading idea is that there is everywhere an increase of insanity following the progress of civilisation, and the unrest and excesses which accompany it. Neurasthenia is rare in Brazil; hysteria frequent. The percentage of cases of insanity set down as due to abuse of alcoholic liquors has, for the last ten years, kept about 28 in the number admitted to treatment. General paralysis is not so common in Brazil as in Europe; but is increasing year by year In the National Hospital for the Insane at Rio there were 9609 patients from 1889; amongst these there were 266 general paralytics, of whom only 12 were women, that is 2·76 *per cent.* of the number received.

Section II was devoted to psychology under the presidency of Dr. G. Heymans, Professor of Philosophy at the University of Groningen. Among the subjects considered were the difference between perception and idea, the illusions of simultaneity for disparate impressions, the oscillations of the attention, and negative hallucinations.

The PRESIDENT gave a lecture on the biographical methods of studying psychology.

Miss LOUISE ROBINOVITCH gave the results of her studies on the genesis of great men. Out of seventy-four biographies she found only ten first-born children, Gibbon, Milton, Arago, Addison, John Adams, Brahms, and Rubinstein were named; one might add Robert Burns, Sir Henry Vane, and Sir John Moore.

Dr. PAUL SOLLIER made an attack upon the view of the emotions upheld by Professors W. James and Lange. These philosophers consider that after an affecting conception a wave of excitement passes through the whole nervous system to the arteries and viscera according to the nature and intensity of the impression, and

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there is then a returning sensation of the changes thus induced in the body; all these processes are conjoined to make up an emotion. Dr. Sollier argued that it is the sentiment of the discharge of cerebral energy along with the intense activity of the brain which constitutes the emotion.

Dr. RÖMER, Sanitary Engineer to the Royal Marine of the Netherlands, has made a study of sexual periodicity in man. His observations on the rise and fall of the "geschlechtstriebe" are illustrated by four tables of curves, showing maxima every four days. They become highest about the full moon. Dr. Römer is inclined to think that owing to the angle in which the sun's rays are reflected by the moon a species of polarisation takes place, which may explain the effects.

Section III, which was given to the consideration of the care and nursing of the insane, was held in a room the walls of which were covered with portraits of former professors.

Dr. VAN DEVENTER read a paper on the "Education, Rights, and Duties of Attendants on the Insane." He would have those desirous of such employment to go through a course of training commencing with some knowledge of nature and of a trade which might be useful, and, with the female nurses, acquaintance with domestic economy and cooking. They should then have to go through a special education with yearly examinations, to end with a certificate or diploma. Dr. Deventer proposes liberal salaries for the attendants, and that they should be assured against accidents, sickness, and retirement from age, and pensions given to their widows and orphans.

It may be safely said, that unless the emoluments of the attendants on the insane be largely increased, there is no chance of candidates presenting themselves to go through such studies and examinations; but with the material we have for attendants and nurses we may console ourselves with Deventer's remark that the *la véritable education du garde-malade reside en bonne partie dans l'expérience.*

In a pamphlet of thirty pages lying for distribution, Dr. Deventer gives some account of his experience of twenty-five years in charge of the Hospital Wilhelmina, at Amsterdam, and the Asylum of Merenberg. During the last half century the number of the insane has increased much beyond the accommodation provided for them. Dr. Deventer looks back upon the time when, during the Easter Fair, the public were admitted, on payment, to see the mad people, and the keepers were accustomed to provoke them to fury in order to increase the interest of the spectacle. He is able to report great improvements, some of them introduced by himself, in the treatment of the insane in Holland. He argues at length in favour of the employment of female nurses in the male wards.

He tells us that for some years back a great number of lunatics have been admitted into the receiving houses (*asiles urbains*) situated in or near the town. These establishments have a special organisation, or, as at the Wilhelmina Hospital, occupy a particular section of the buildings. It has been found that from 30 to 75 *per cent.* of the patients admitted quit the urban hospitals recovered after from some weeks to six months medical treatment, and are thus saved from being consigned to the asylum. These good results are obtained especially when the patients are admitted without delay and on the first appearance of the mental derangements.

Dr. Deventer was followed by Dr. SHUTTLEWORTH, who detailed what was being done in England to raise the education and position of the attendants on the insane. It formed a striking antithesis when Dr. ALT, of Uchtspringe in Saxony, and Dr. PEETERS, of Gheel, dilated at length on the merits of the family treatment of the insane. No question here of special studies or examinations for the attendants. The willingness to receive a lunatic into a cottage at a small board seems of itself to confer the ability to treat the patients in a way superior in every respect to that bestowed in the hospitals and asylums. Dr. Peeters maintained that even cases of acute insanity were better treated when boarded in families in Gheel. He further observed that from the absence of amusement and healthy occupation in the closed asylums (*asiles fermés*) there was a superadded tendency for the patients to sink into dementia.

These views were repeated in a special conference, and seemed to have passed without public criticism, although every one was not convinced. Indeed, during the whole Congress there was a dearth of discussion; but with so many papers it was difficult to get through them all.

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Dr. MARIE, of Villejuif, considered that all cases of acute insanity should go as early as possible to the hospitals. To make room for fresh arrivals convalescent and chronic patients should be transferred to colonies thrown around the asylums where country work would be provided for them. Harmless lunatics, epileptics, and grown-up imbeciles might be boarded in more distant places.

Dr. VAN RENTERGHEM, in a paper on "Psychotherapy," defended the employment of hypnotic suggestion against the strictures of Déjérine and Dubois, in which he was supported by Dr. Lloyd Tuckey.

Dr. W. W. IRELAND read a paper on "The Increase of Nervous Diseases and of Insanity"; after which Dr. J. H. MACDONALD read Dr. Easterbrook's paper on "The Treatment of Active Insanity by Rest in Bed in the Open Air." The rest treatment was introduced by Dr. Paetz, of Alt-Scherhitz, in 1881, and the open-air treatment has been used for several years on an extensive scale in the State Hospital in Ward's Island, New York, as recorded in a communication to the Congress by Dr. William Mabon. It has also been used for several years by Dr. H. Marr, of the Woodilee Asylum. Dr. Easterbrook has, at the Ayr Asylum, combined these two methods. He has found that, in his patients lying in bed all day in the verandahs, the open-air has a calmative effect, promoting sleep and increasing the appetite. The improvement commences with the mental symptoms, whereas, when the patients were walked about by attendants the mental improvement was subsequent to that of the general health.

There was an interesting exhibition in the City Museum illustrating the History of Medicine and Pharmacology. The members were supplied with a catalogue of 104 pages, in Dutch, French, English, and German, with ten plates designed to portray the dismal apparatus of confinement and restraint used in the old asylums. A collection of these were exhibited in one room, and in another the complex instruments of physiological research, amongst which the instruments for registering muscular and other motions designed by Dr. Wertheim Salomonson, were especially noteworthy. Old strait waistcoats, muffs, and manacles form not unusual exhibits for visitors to medical associations, though it may be questioned whether it is wise for those who have in their hands the treatment of the insane to be so ready to recall neglect and mismanagement, which have passed away never to return. Practitioners in ordinary medicine and surgery take no delight in reminiscences of the old blunders of Dr. Sangrado and Diaforius, bleeding in fevers, leeching in consumption, mercurial salivations by the quart, and other horrors of the past. It is assumed, somewhat too lightly, that the present generation of medical men are quite exempt from carrying to excess treatment based upon theories not completely proved.

The members had reason to be grateful to the Secretaries, Drs. Deventer, Wayenburg, and Londen, for securing them accommodation, and rendering their stay in Amsterdam agreeable. The usefulness of these International Congresses consists, not so much in announcing or discussing new scientific discoveries, as in diffusing amongst medical men and jurists a knowledge of the most advanced ideas on the care and treatment of the insane.

The entertainments so kindly provided were certainly as much attended as the formal meetings. They comprised a reception by Dr. and Mrs. Deventer, another by the Students' Club, and a third by the Burgomaster of Amsterdam, and a choice Choral Entertainment in the Leidische Plain Theatre.

There was an excursion to Zaandam to see the hut where the Tzar Peter lived when he came to Holland to learn shipbuilding. From the deck of the steamboat we looked down upon the flat fields, gardens, and moist meadows divided into squares by ditches and canals. We had the pleasure of exchanging greetings with our American colleagues, most of them already known to us by reputation. Amongst others we met with Dr. Alder Blumer, Dr. Brush, Dr. C. H. Hughes, Dr. Hurd, and Dr. Carlos MacDonald. There were forty American members at the Congress.

On Saturday there was an excursion to Leyden and the Hague. We were shown through the asylum at Endegeest, where there are about 400 patients. The Congress terminated with a public dinner in the Kursal of Scheveningen, a fashionable watering-place, and a concert. It may be here mentioned that preparations have been already begun for holding the next International Congress at Vienna in the autumn of 1908.

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At the International Congress held at Milan in 1906 a Committee was elected to consider the causes of mental diseases and their prophylaxis. The members met at Amsterdam in the University. It was announced that the King of Italy had promised his patronage, and the Italian Minister for Foreign Affairs had engaged to bring this business before the governments of different countries and to ask them to send delegates. In a communication drawn up by Dr. van Deventer, of Amsterdam, and Dr. J. W. Deknatel, of Breda, it was recommended that an International Committee should be formed for the study of mental diseases, which should collect all documents and information relating to the prevention of such derangements and to the degeneration of the human race, with a view to enlighten governments and peoples about the general measures to prevent such degenerations, especially insanity. Each country might send several delegates, but should only have one vote. It was suggested that the sum of from 10,000 to 30,000 francs should be granted for the expenses of a central bureau, and that the money should be raised by contributions of so much for each million of the population (a shrewd proposal, coming from a small State). The International Committee should meet once a year, and should hold an International Congress every three years, and publish noteworthy contributions to the knowledge of the subject.

"The Commission will prepare the organisation of the international statistics of lunacy," assuredly a most desirable object.

The meetings of the Committee at Amsterdam were occupied with some brisk debates about laying down rules of procedures and lines of inquiry. Members of different countries had a difficulty in understanding one another. How many questions connected with insanity require to be settled before we can set out on the collective investigation of its etiology! *e.g.* What amount is to be allowed to drunkenness as an efficient cause? Is insanity increasing? Is cerebral apoplexy a nerve-substance or arterial disease? Then we must agree to have a common classification of insanity. British alienists will be urged to receive paranoia, and Germans to give up katatonia.

Drs. Marie and Ladame proposed that an international commission should be constituted to consider the conditions under which foreigners who fall insane should receive assistance or be sent back to their own countries.

REPORT ON THE MENTAL HOSPITALS OF THE COLONY OF NEW ZEALAND FOR 1906.

This report has been prepared by Dr. Frank Hay, who has succeeded to the post of Inspector-General on the death of Dr. Macgregor, who had served the Department of Asylums and Hospitals for twenty years, during which time the number of patients on the registers increased from 1613 to 3206, while the number of officials increased from 213 to 464. The cost per patient in 1886 was £30 11*s.* 8½*d.*, net £27 0*s.* 9*d.*; while the cost in 1906 was £35 2*s.* 10*d.*, net £26 10*s.* 6½*d.* It is interesting to note that ordinary attendants are now paid £95 as against £80 maximum, nurses £55 as against £45 maximum in 1886. Dr. Hay relates that the Departments of Asylums and Hospitals were administered by no ordinary man; Dr. Macgregor had a mind as massive as his frame, his nobility of thought, his geniality, his forcefulness in action, made up a personality which left its mark on the civil service of the Colony. He bequeathed to the Department a tradition of justice, of courage to do what is right without thought of applause or blame, and of a righteous regard for the public purse. Those who had the advantage of knowing something of Dr. Macgregor and his work will re-echo Dr. Hay's testimony.

The official records of the mental hospitals, now departmentally disjoined from the general hospitals of the Colony, form interesting reading. As we have indicated, the total number of patients has greatly increased and they are now accommodated in seven public and one private asylum. The numbers in the former vary from 714 in the Dunedin Asylum to 145 in Nelson Asylum. The accommodation for men is sufficient for present requirements, but an excess of 35 women is spread over the mental hospitals. The proportion of the total insane to the total population is 3·49

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per 1000 exclusive of Maories, and 3·35 inclusive of Maories. It is an unfortunate fact that while the native-born inhabitants of New Zealand contribute considerably more than two-thirds of the population, they contribute less than one-third to the number of the insane. It would appear that the colony is thus burdened with the support of the majority of the insane, who were born outside its borders. One in a thousand of all immigrants, tourists, etc., became insane within the year in which they arrived (1905), and contributed 4·7 *per cent.* of the admissions (659) for that year. Dr. Hay finds that there is a remarkably low incidence of insanity among the New Zealand born, and suggests that the conditions of colonial life awaken the prepotencies of the race and assist the environment to triumph over evil heredity.

The percentage of recoveries on the admissions was—males 39·75; females 47·73; total 42·94 for the year 1906. The percentage of deaths on the average number resident was—males 8·1; females 6·71; total 7·48. Only 13 deaths were due to tubercular disease, and there were no dysenteric disorders.

Dr. Hay refers to the training and registration of mental nurses, and hopes to have the support of the department for general hospitals in their receiving mental nurses for further training and special certification, without loss of seniority in their own sphere.

In conclusion, he expresses general satisfaction with the year's work, and closes a most interesting report which is indicative of real progress.

AUSTRALASIAN MEDICAL CONGRESS, MELBOURNE, 1908.

We are glad to observe that our colleagues in Australasia have arranged for an Inter-State Medical Congress to be held this year in Melbourne, from October 19th till the 24th. The Section of Neurology and Psychiatry will be served as Secretary by Dr. Beattie Smith, 4, Collins Street, Melbourne. Dr. Truby King, of Seaclill, New Zealand, has been elected President. In addition to the usual dfscussions there will be a Museum of Pathological Work, and the Section will visit the new Receiving House and the Acute Mental Hospital. Contributions to the Congress will be welcomed by Dr. Beattie Smith, and we hope this new venture will be a great success.

NOTICES OF MEETINGS.

Quarterly Meeting.—The next meeting will be held, by the courtesy of Dr. Miller, at Hatton Asylum, Warwick, on Thursday, February 20th, 1908.

South-Eastern Division.—The Spring Meeting will be held, by the courtesy of Dr. Seward, at Colney Hatch Asylum, on April 28th, 1908.

South-Western Division.—The Spring Meeting will be held, by the courtesy of Dr. Soutar, at Barnwood House, Gloucester, on April 24th, 1908.

Northern and Midland Division.—The Spring Meeting will be held, by the courtesy of Dr. Adair, at Storthes Hall Asylum, near Huddersfield, on April 30th, 1908.

Irish Division.—The Spring Meeting will be held, by the courtesy of Dr. Leeper, at St. Edmundsbury, Lucan, on April 30th, 1908.

Scottish Division.—The Spring Meeting will be held on March 20th, 1908.

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APPOINTMENTS.

Butcher, Miss Flora, M.D., Assistant Medical Officer to the Fife and Kinross District Lunatic Asylum.

Donald, Robert, M.B., Ch.B.Glasg., Assistant Resident Medical Officer of Riccartsbar Asylum.

Easterbrook, Charles Cromhall, M.D., F.R.C.P., has been appointed Physician-Superintendent to the Crichton Royal Institution, Dumfries.

Leggett, William, M.B., Ch.B., and B.A.O.Dublin, Senior Assistant Physician at Montrose Royal Asylum.

McEwan, Thos. Duncan, M.B., Ch.B.Glasg., Junior Assistant Physician to the Glasgow Royal Asylum.

McRae, Douglas, M.D., and F.R.C.P.E., Assistant Physician, West House, Royal Edinburgh Asylum, has been appointed Medical Superintendent of the Ayr District Asylum, Glengall, Ayr.

Miller, John, M.B., Ch.B.Glasg., Assistant Medical Officer. Roxburgh District Asylum, Melrose.

Rice, David, M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Norwich City Asylum.

Roy, J. Allan Chisholm, M.B., Ch.B.Vict., Assistant Medical Officer, Cheadle Royal Hospital.

Sall, Ernest F., M.R.C.S., L.R.C.P.Lond., Medical Superintendent of the Canterbury Borough Asylum.

Shaw, Charles John, M.D.Edin., Senior Assistant Physician to the Glasgow Royal Asylum.

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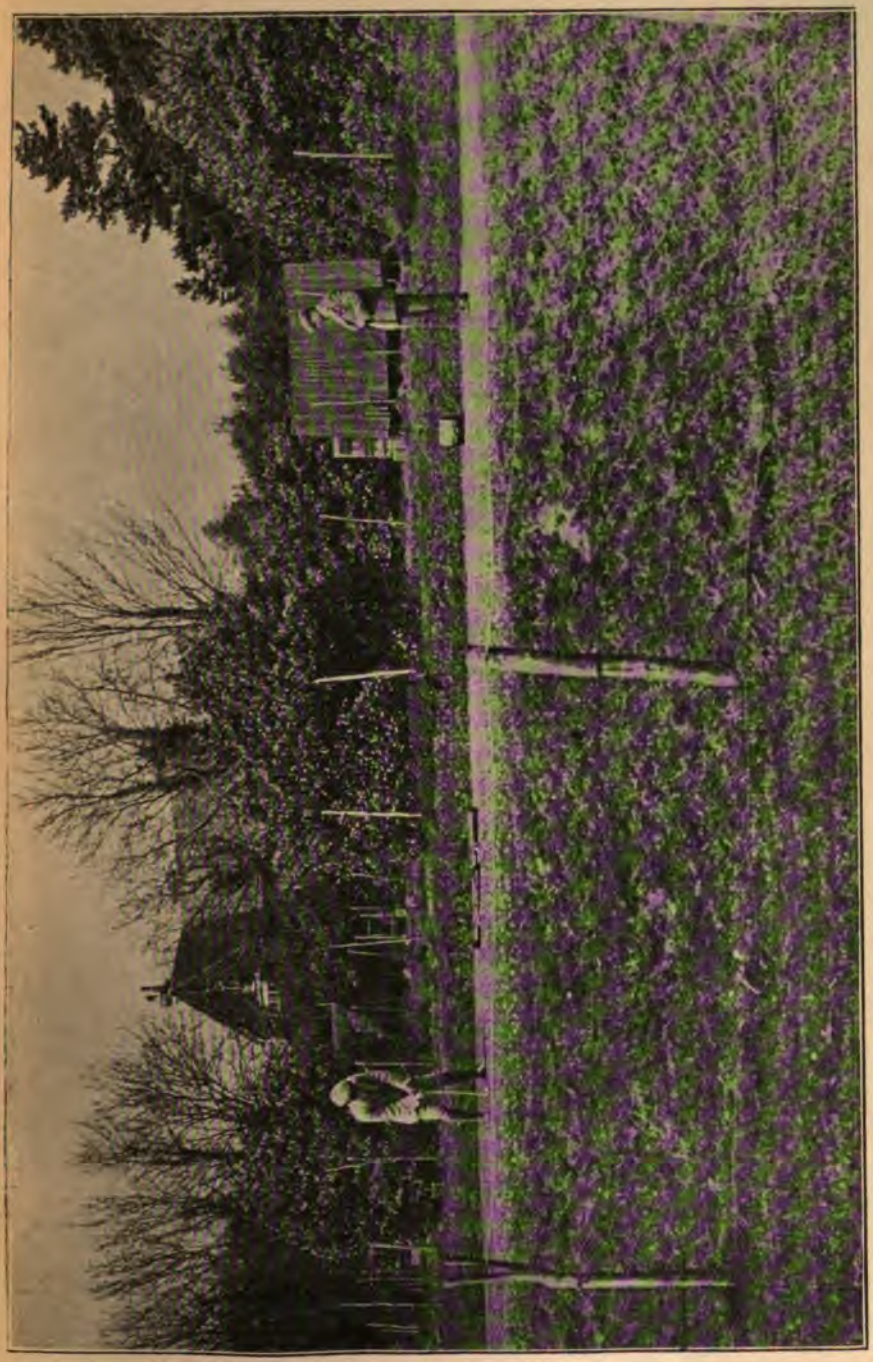

SOUTH BEACON, HADLOW DOWN, BUXTED, SUSSEX,
For Borderland Patients. PHILIP H. HARMER.

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CONOLLY NORMAN. Obiit February 22nd, 1908.

Adlard & Son, Impr.

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THE

JOURNAL OF MENTAL SCIENCE

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No. 225 [NEW SERIES No. 189.] APRIL, 1908. VOL. LIV.

Part I.—Original Articles.

Dr. Conolly Norman.

CONOLLY NORMAN is dead; and henceforward, to those who knew and loved him, the world is no longer the same. It is hard to realise that that burly form, that strong, kind, humorous face will no more be seen at our meetings. The staunch friend, the wise counsellor, the delightful companion, the witty talker, the upright, just, sympathetic, capable man, is torn from amongst us, and the wound will remain fresh and raw until we also are called to join the great majority. To those who knew him best, his loss cuts one of the ties to life, and renders the prospect of their own departure less formidable.

Conolly Norman was born in 1852, of a north of Ireland family, and spent practically the whole of his professional life in the psychiatric specialty. After serving a few years as assistant medical officer in England, he returned to Ireland, and at a very early age his great ability secured recognition in the appointment of Medical Superintendent of the Monaghan Asylum. From hence, after a few years, he was transferred to Castlebar, whence, after six years' service, he was appointed to the premier position in lunacy in Ireland—the command of the Richmond Asylum in Dublin. He found the asylum sunk in almost mediæval inefficiency, and engaged at once in a campaign against dirt, restraint, overcrowding, bad food,

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inefficient attendance, and all the deficiencies of the old *régime*; and in a comparatively short time he raised the institution to the very first rank, not in Ireland merely, but in the world. A few years after he had assumed control of the asylum, and while still actively engaged in innumerable reforms, he found himself confronted with a very serious outbreak of a disease then almost unknown, and at all times most difficult to recognise—beri-beri. His anxieties were redoubled by the insufficient accommodation at his disposal, by the obstruction to his efforts opposed by superior authority, and by persistent attempts to cast upon him responsibility for the origin, spread, and persistence of the disease. It was at this time that these accumulated anxieties, added to the burden of over-work, and possibly to some infection with the disease itself, culminated in his first serious breakdown in health, and a weakness of the heart from which he never recovered, and which has now brought him to the grave. Under the advice of Sir Douglas Powell he went to San Remo, and for several weeks his condition showed no improvement. In the meantime, however, a friend had been working on his behalf, and a complete statement of the whole of his struggle, authenticated by official documents, was published week by week with inexorable persistence, in the columns of *Truth*. Attention being thus called to the matter, questions were asked in Parliament; official investigation was made. A great meeting was held in Dublin, at which the Lord Lieutenant explicitly laid the blame for whatever *lâches* had been committed, not upon Dr. Conolly Norman, but upon the very persons who had been endeavouring to fix upon him the responsibility. It was upon receipt of a telegram at San Remo, apprising him of the appearance of the first article in *Truth*, that Norman began to improve, and ultimately, though his heart never regained its normal strength, yet he was able to work strenuously for many years.

Dr. Norman had always been a very active member of this Association; for many years he was Irish Secretary, and in 1894 he was elected President. It was he who first initiated the practice of extending the Annual Meeting over more than one day, and the meeting at Dublin over which he presided, and which lasted the best part of a week, was in some respects the

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most memorable the Association has ever experienced. The members from England and Scotland, as well as several distinguished Continental alienists, then discovered for the first time the full meaning and extent of Irish hospitality. Every day of the meeting they were entertained both at lunch and dinner, every day there was a garden party in the afternoon, and a reception, a conversazione, or a dance in the evening, and on some of the days they were even invited out to breakfast. The effect of these hospitalities was apparent at the service at St. Patrick's Cathedral, which formed a ceremonious and appropriate conclusion to the meeting. The long succession of busy days and short nights; the result of almost continuous conviviality; the atmosphere of the crowded cathedral on a hot June day; the lulling effect of the music as "through the long-drawn aisle and fretted vault the pealing anthem swelled the note of praise," combined to produce a somnolence so overpowering, that not only was the sermon preached to deaf ears, but several members of the Association, headed by the President, were seen to be fast asleep as they stood during the anthem. It was rumoured afterwards that the precentor, observing the state of affairs, had at first chosen for the anthem "He maketh peace," but at the last moment substituted for it "Sleepers wake!" Among other things for which the Dublin meeting is memorable, is that it was the last meeting of the Association attended by Dr. Hack Tuke, who, in spite of failing health and increasing feebleness, insisted on attending every function. He was one of the large house-party entertained by Dr. and Mrs. Norman on the occasion, every one of whom carried away a life-long memory of the unbounded hospitality, the goodness of heart, the consideration, kindness, and untiring attention of their host and hostess.

Dr. Conolly Norman was happy in being a man of many interests and many activities. A good linguist, he was fond of foreign travel, and eagerly welcomed at the meetings of learned bodies abroad. At the recent Congress at Amsterdam he was elected to the chair of one of the sections. He was a man of extensive reading, with a wide acquaintance with out-of-the-way literature. It was difficult to find any literary subject on which he could not converse with first-hand knowledge. He

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had a fine taste in art, and thought a good book should have a worthy binding. He was a competent archæologist, and had a good knowledge of architecture and of music.

It was in his own branch of his own profession that he shone. Not all the demands upon his energy, that were made by the administration of a great institution, could prevent him from contributing to that realm of observation that he thought least cultivated and most deserving of cultivation in our specialty—the realm of clinical observation. His contributions to this branch of science are well known to our readers, but in addition to these he wrote numerous reviews, which, whether signed or unsigned, were always recognisable by their keen insight, their racy style, and the humour and wit that illuminated them. But it was as a letter writer that he was most delightful. He cultivated the fine, but well-nigh lost, art of what our grandfathers called "epistolary correspondence," and the writer of this memoir has a heap of his letters, the product of many years of familiar intercourse, all dashed off at high pressure, in the intervals of important business, and all exhibiting such real literary merit as well as human interest, that they are the subject of frequent reference and frequent re-perusal. In his very last letter, dated but a few weeks ago, he asks, *à propos* of the arrogant attitude of a person then attracting attention, "What has God Almighty done that He should be taken under the patronage of ——?"

For Conolly Norman has unfolded that portal everlasting that gapes for us all. When we in our turn pass through it, may we leave behind us such a record as he has left of duty manfully done; of a clean, pure, upright life; of fights in which he never hit below the belt, or showed or left a trace of ill-feeling; of services rendered without solicitation and without reward; of affection inspired in high and low, in near and far; of the highest standard of honour adhered to without deviation; of a life which reaped its fit reward in "honour, love, obedience, troops of friends." He who can leave behind him such a record, such an example, has not lived in vain.

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The Symptoms and Etiology of Mania: The Morison Lectures, 1908. By LEWIS C. BRUCE, M.D.

LECTURE I.

THE physician, in his dealings with disease, has always the consolation of knowing that he has Nature on his side. One of the most wonderful forces of Nature is antagonism to disease, and when disease has gained sway her efforts to promote recovery are untiring. I have seen it stated that Nature kills or attempts to kill unsuitable stock. Such a statement is opposed to the little that we do know of Nature's methods. The weaker the stock the more carefully does Nature lay her plans for its perpetuation. Why are the families of tubercular parents large? Because Nature is preparing for a heavy death-rate.

In a certain American state efforts have been made to legalise the elimination of persons suffering from incurable disease and of those physically unfit. Should such a measure ever become law it would, I believe, defeat its own aims, because it is opposed to this great law of Nature. All the advances in medicine and surgery have been made along the lines of Nature's methods of promoting recovery from disease or injury, and the retrogressions have been due to ignorance of, or the ignoring of, Nature's methods.

When we come to study mental diseases we find that this same law holds good, and although the work of the psychiatrist is often discouraging, his course is plain: he must study Nature's methods of treating these diseases and base his treatment upon that study.

No department of medicine is more confusing or more difficult to understand than that known as psychiatry, or the study of mental diseases, because the earlier workers in the speciality have been constantly attracted along the path of morbid psychology when they should have been devoting their attentions entirely to physical symptoms. Many of our best and most original workers have drifted down this psychological path, which terminates in a maze of words from which there is no escape and no possibility of advance. How many of the

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present day psychiatrists affirm that the mind influences the body? which statement, followed to its logical conclusion, means that the mind is something apart and distinct from the body. If this were true, then mental disease must indeed be a thing apart from general medicine, for it would not be concerned with bodily functions. Such a conclusion is manifestly absurd. All forms of energy of which we are cognisant can be demonstrated to be forms of molecular vibration, and, arguing from analogy, it is most probable that all forms of nervous energy are also merely molecular vibration. Man, by means of his special senses, is constantly receiving energy from without, in the form of molecular vibration, and this energy, in some way which at present we do not understand, is received, stored, and altered in the central nervous tissues, and, as education advances, we see that it is capable of being reproduced as mental energy. The proof that this must be so lies in the fact that if man were born without any special senses he would have no such thing as mind. In this and the following lectures I place mind on this simple basis: that it is a product of molecular vibration in the protoplasm of the central nervous system, and that any disorder of the mechanism or function of this nervous protoplasm may, given certain conditions, produce symptoms which we call mental disease.

I am firmly convinced that if we are to advance our knowledge of the intricate mass of symptoms called, at the present day, mental diseases, we must attack the problem from the physical side. The mental symptoms must be to us mere incidents, nothing more, often assisting us in arriving at a diagnosis, but subsidiary and secondary to the physical symptoms which they so frequently mask, and which can only be demonstrated by direct and special investigation—investigations in which we can hope for no assistance from the patient, who, not unfrequently, is not in a state to render intelligent assistance. Speaking, however, from an experience of fifteen years' work, I have no hesitation in saying that, taking the so-called insane patients as a class, I have found them more easy to deal with than patients in general practice or in general hospitals, and that when they were in such a condition as to be able to have their condition explained to them, they most readily assisted in any means which were adopted for their treatment. As the result of work done on these lines I propose in this and the

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succeeding lectures to lay before you the physical symptoms which are to be observed in that class of mental disease at present designated as conditions of mania. Wherever it is possible to do so I will compare the symptoms in these diseases with similar symptoms, which I have from time to time been able to

CHART I.

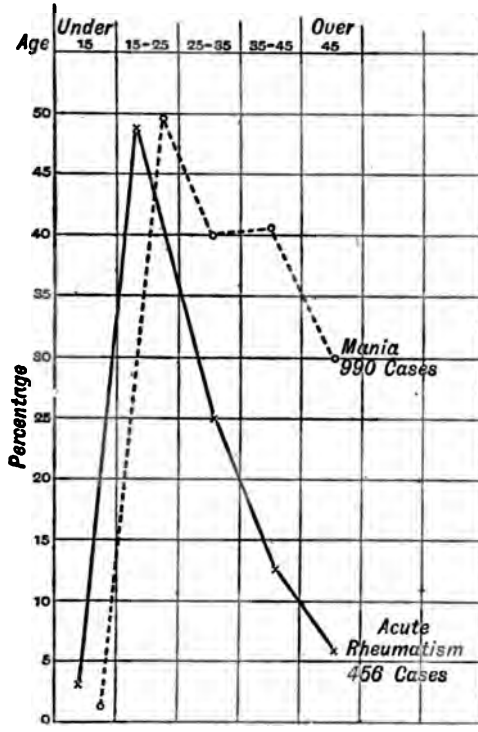

Table comparing the age of onset in mania and acute rheumatism.

observe myself or collect from others, as well as in diseases which are allied to insanity, but are rarely complicated by mental symptoms. I refer particularly to rheumatism, which, in the various forms in which it manifests itself, is closely allied to the insanities known as mania.

Mania, or states of mental excitement or exaltation, constitutes between 50 and 60 *per cent.* of all the admissions into asylums. Mania may occur at any period of life, but in the vast majority of cases it is a disease of adolescence or early

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adult life, and in this it closely resembles rheumatism (Chart I).

The disease conditions commonly spoken of as mania may be divided into two great classes, which may be readily distinguished from one another by the mental symptoms alone. They are firstly, mania, with confusion—a state of delirious excitement in which the patient is wholly or partially unconscious of the environment, and in every case of which confusion is a marked symptom. Secondly, mania without confusion, or the excitement of *folie circulaire*, more directly designated on the continent "manic-depressive insanity," from the fact that patients who suffer from this form of excitement are also liable to have attacks of depression. The excitement of manic-depressive insanity is characterised by elevation of mind, with little or no confusion. The patient keeps in touch with the environment, the special senses are hyperacute, and the chief mental characteristic of the disease is a rapid, ill-regulated, and easily disconnected train of thought. Confusional or delirious mania is a condition which, if not recovered from, is liable to pass into a chronic state of excitement, which may closely simulate the excitement of manic-depressive insanity, and still later tends to pass into a delusional condition, associated with restless excitement, destructiveness, and noise, and still later terminates in dementia, more or less complete. A most interesting and instructive fact about this type of the disease is, that the state of early delirious excitement may never manifest itself, the onset of the disease in some cases being so gradual and insidious that the mental symptoms only become evident when the patient passes into the delusional state, with complete change of character, and then it is only by physical examination that the true nature of the condition can be demonstrated; but whatever its method of onset or terminations may be, mania of the confusional type is never complicated by attacks of depression, which are extremely common in the allied disease, manic-depressive insanity, so common, in fact, as to have led to the term "depressive" being added to the nomenclature.

The causes of the onset of all insanities are physical, and this is particularly the case in the victims of mania. I know that you will not believe me when I say that insanity is never the result of love affairs or religious excitement, because such a statement traverses one of the most dearly-cherished delusions

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of the laity and many professional men. Emotionalism is a symptom of an unstable brain, and after insanity evidences itself it is a symptom of the insanity, just as alcoholism is far more frequently a symptom than a cause. This latter statement I can demonstrate to you by several most striking cases —cases in which I rely upon physical and not psychological evidence to support my statements. Further, states of mania never arise *de novo* as the result of brain disease pure and simple. However defective any organ of the human body may be that organ never originates disease *per se;* there must be a cause for the onset of disease; and this rule applies to the brain as well as to all the other bodily organs. What, then, are these causes which make for disease of the highest nervous structures? The first and most generally accepted cause is predisposing, and is spoken of as hereditary predisposition. It must be clearly understood that a man never inherits actual mental disease from his parents, but he inherits a defect of constitution which renders the most highly organised portions of his nervous system liable to attacks of disordered function from causes which would not affect a man of sound constitution, and it is not necessary that the patient should have had insane progenitors. It is sufficient that his parents, through disease, accident, or disregard of the laws of health at the period of his conception, failed to supply him with that necessary balance of mind and body which constitute the true condition of health. Further, such parental defects as alcoholism, tubercular disease, extreme nervousness, vagabondage, eccentricity, hysteria, criminality, inequality in mental development, such as extreme brilliancy in one direction combined with deficiency in others, and any weakness of the defences of the body against toxic and bacterial invasions, may produce in the offspring as great an hereditary predisposition to mental diseases as may actual attacks of mental disease in one or both parents.

Regarded, therefore, from this broad standpoint, hereditary predisposition, meaning an unstable nervous system, is the great predisposing cause of all insanities.

With regard to the exciting causes, I will, in these lectures, confine myself to the exciting causes of maniacal states which are now very generally believed to be toxic in origin, and I go further and say that the toxines are bacterial toxines, and that the bacteria are of the class cocci and allied to the *Micrococcus*

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rheumaticus. It is difficult, perhaps impossible, to wholly substantiate such a statement with regard to the causation of mania on the postulates of Koch—that to prove a disease to be bacterial one must find the specific organism in every case, reproduce the disease in animals, and recover the organism from the diseased animal. I may say at once that I have not found a specific organism in every case, but I have found evidences of specific bacterial invasion in every case. Secondly, I have never been able to reproduce mania in the lower animals, but I have produced evidences of lesion in the lumbar enlargement of the spinal cord in rabbits, showing that the toxines of these bacteria have a chemical affinity for nerve tissues. Further, I have found that the injection of vaccines made from the organisms isolated from the cases of mania, when tentatively used as a method of treatment in such cases, produced a marked exacerbation in the symptoms of the disease if the dose of vaccine was too large. The same results follow the use of vaccines made from the *Micrococcus rheumaticus*, when injected into patients suffering from rheumatism. These observations will be referred to again in a later lecture. I have demonstrated that the changes in the blood serum of infected rabbits closely resemble those which I have been able to demonstrate in man, and, lastly, a pure culture of the organism has been obtained from inoculated rabbits in one case so long as one month after infection.

There are, therefore, many links in the chain of evidence wanting, but such evidence as is already in my possession is sufficient to warrant the general conclusion being drawn that the diseases known as mania are due to bacterial toxæmias, which are in many ways comparable to the bacterial toxæmias of rheumatism.

The question at once arises, if the toxæmias of mania are comparable to the toxæmias of rheumatism—a very common disease in this country—is there any evidence that the sane, as well as the insane, suffer from similiar toxæmias? There is evidence to this effect.

My colleague, Dr. C. J. Shaw, and myself, when working at the opsonic indices of persons suffering from insanity, which necessitated the mixing of the serum of the patients with the washed red blood-corpuscles from a healthy subject, noticed that the blood serum of certain forms of insanity, particularly

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cases of mania, whose symptoms pointed to the evidences of bacterial toxæmia, agglutinated the red blood-corpuscles of healthy persons. The washed red blood-corpuscles of one case of mania, on the other hand, were not affected by the serum of another case of mania, although the serum of both patients acted with vigour upon the red blood-corpuscles of a healthy man. In other words, the red blood-corpuscles of a person who gives this reaction are protected against the agglutinating substance.

Out of 54 cases of mania examined 50, or 92 *per cent.*, gave this reaction.

On further investigating this reaction, we found that it could be demonstrated in many sane patients suffering from known bacterial invasions, and my thanks are due in this respect to Drs. C. B. Keir and T. Mitchell, who supplied me with many samples of serum from patients admitted into the hospitals of which they had charge. (The washed red blood-corpuscles of these sane, but sick, persons were also immune to the action of agglutinating sera obtained from maniacal patients.) On further extending the observation to persons supposed to be in a state of health—for instance, all the members of the asylum staff and others—I found that 50 *per cent.* of the sane and apparently healthy gave the reaction. The washed red blood-corpuscles of these persons also were immune to the agglutinating action of sera taken from cases of mania.

This reaction, therefore, although almost universal in the maniacal patients, is evidently not confined to mania, and is not a diagnostic of mania. In further observations I found that the agglutinating substance in the serum was thermostable, *i.e.*, it still acted after being heated to 60° C. for 30 minutes. It was found that if equal portions of normal red blood-corpuscles and the serum of a person giving this reaction were mixed *in vitro*, allowed to stand for 15 minutes, then centrifuged and the supernatent fluid pipetted off, that the pipetted serum, if now mixed with a fresh supply of normal red blood-corpuscles, had no further power of action. It is clear, therefore, that the agglutinating substance is either destroyed or exhausted, or had linked itself to the normal red blood-corpuscles with which it had been originally mixed.

To assist in explaining this reaction it was now necessary to attempt to reproduce the condition artificially, and this was done

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with rabbits. A control rabbit was chosen whose washed red blood-corpuscles, when tested against the serum of fourteen others, gave no reaction. Four of these rabbits were inoculated with a diplococcus or short streptococcus isolated from the blood of a case of acute mania of the confusional type; three with a coccus obtained from the bone-marrow of a patient who died in the typhoid state during an attack of acute mania; five with a *Bacillus coli communis*; two with a *Bacillus paralyticans*—the diphtheroid bacillus of Ford Robertson, McRae, and Jeffries. The serum of all the rabbits infected with the coccal organisms, as soon as agglutinins to the infecting organism could be demonstrated in the serum, agglutinated the washed red blood-corpuscles of the control rabbit. None of the rabbits infected with the bacilli gave the reaction. The agglutinin to the red blood-corpuscles present in the sera of the rabbits inoculated with the coccal organisms was only present for a few days in each case, but could be reinduced by reinoculating the rabbit with the coccal organisms. From this series of observations I conclude that whenever the blood serum of one person agglutinates the washed red blood-corpuscles of a person in health that the person supplying the serum is probably suffering from a coccal invasion. It is true that many of the persons who gave this reaction were apparently healthy, but, so far as I was able to go into the physical state of such persons, my belief is that many of them were not in a state of health. Many of the women were suffering from anæmia or chlorosis, others had recurrent attacks of tonsillitis. Two of the sane persons who gave this reaction at a later date contracted typhoid fever, and both suffered severely, not so much from the typhoid as the sequelæ of typhoid, and convalesced slowly, while a third, contracting pneumonia, died after forty-eight hours' illness.

If, then, the sane with the insane show evidence of bacterial toxæmias, we are driven back to the constitutional taint, the inheritance of an unstable nervous system, as the chief factor in the production of mania. In other words, the sane and the insane may suffer from similar toxæmias, but whereas the brain of the sane man is stable the toxines produce no mental symptoms, the brain of the insane man is unstable and readily becomes disordered by toxic action. Further, it is probable that the subjects of mania have also a constitutional failure in their bacterial defences. Dr. C. J. Shaw, my late colleague,

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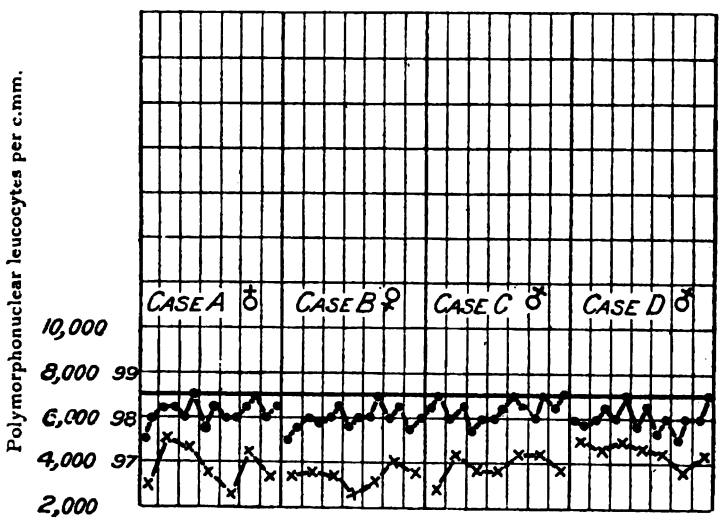
demonstrated most clearly the fact that patients suffering from acute insanity, particularly cases of acute mania, have a lower resistive power to the tubercle bacillus, as gauged by the opsonic index, than sane persons of the same age, and yet several of his control cases gave the agglutinative reaction with the red blood-corpuscles of a healthy man. When the resistive power of these maniacal patients, as gauged by the opsonic index, was tested to the *Bacillus coli communis*, the *Staphylococcus aureus*, and to two varieties of streptococci, it was found to be lower than the average index obtained in the control cases.

CHART 2.



Temperature and polymorphonuclear charts in four controls.

Turning, then, from the causes of mania to the physical symptoms of the disease, I show two charts of the body-temperature in cases of mania, with confusion and mania of the manic-depressive type respectively (Charts 3 and 4). It will be noticed at once that there is practically no febrile reaction in either case, and yet the synchronous polymorphonuclear leucocyte record is a most marked departure from that of health. We have on these charts a graphic representation of a marked toxæmia without any corresponding rise in the body-temperature, a state of affairs which, until a few years ago,

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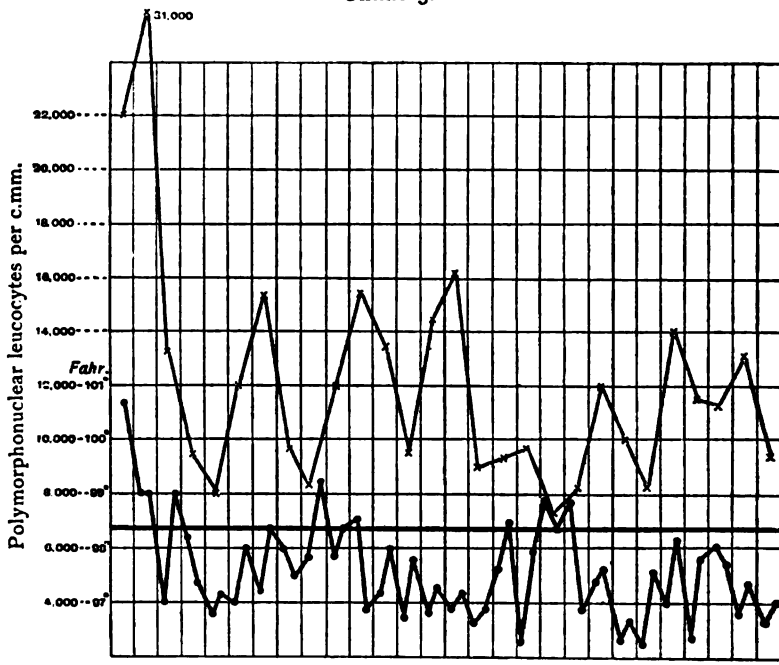
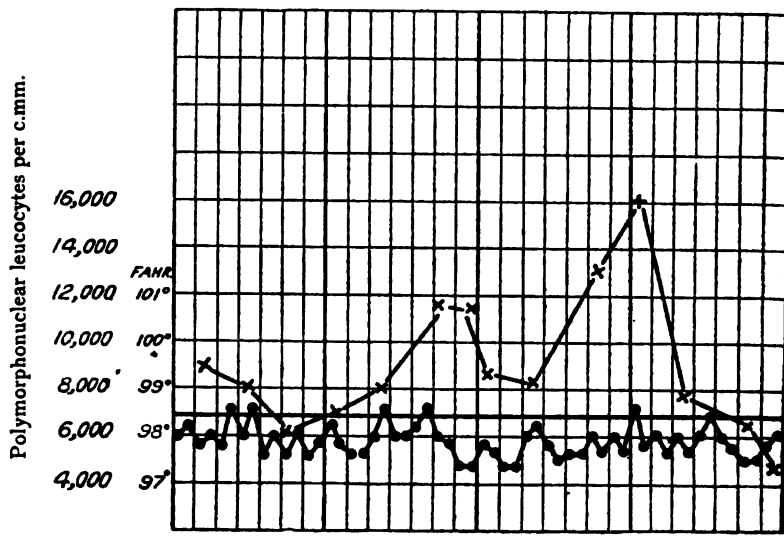
CHART 3.



Temperature and polymorphonuclear leucocyte chart; mania (confusional type).

CHART 4.



Temperature and polymorphonuclear leucocyte chart. Mania (manic-depressive type).

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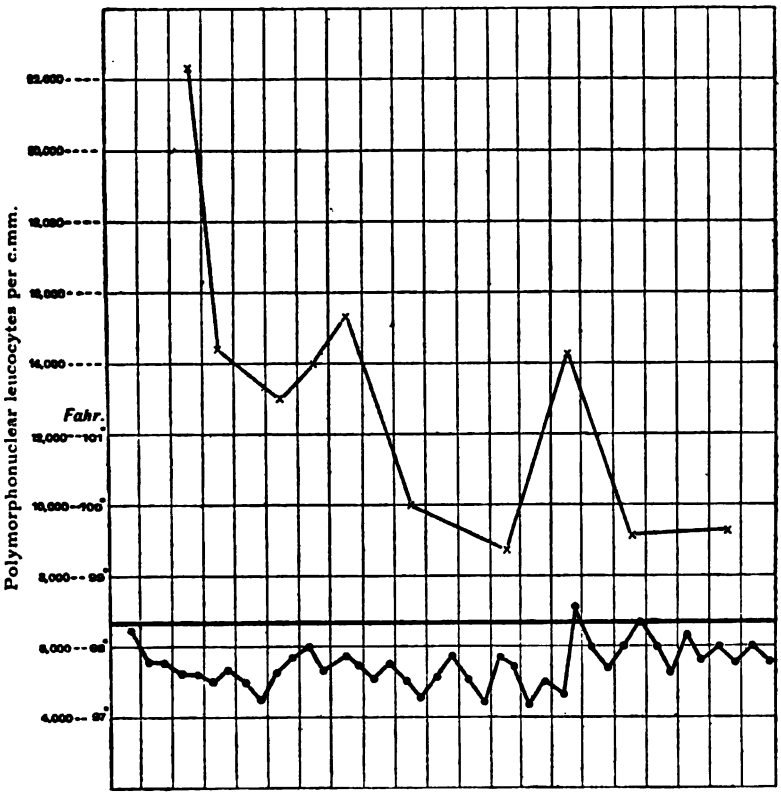
was considered an impossibility. Repeated observations on similar cases, however, have proved this fact beyond doubt, that in cases of mania such conditions as a virulent toxæmia and an afebrile temperature co-exist. There are also temperature and leucocyte charts in two cases of mania with confusion which

CHART 5.



Temperature and polymorphonuclear chart; mania (confusional type, chronic). ♀.

never developed excitement, but in whom a gradual mental change took place (Charts 5 and 6). They changed in character, became slightly confused, irritable, and delusional, and, judged by their mental symptoms, might have been regarded as cases of delusional insanity. The physical symptoms, however—the leucocytosis, the presence of bacterial agglutinins in the blood, and the discovery of a local uterine lesion in each case—leave no doubt as to the diagnosis. These two cases,

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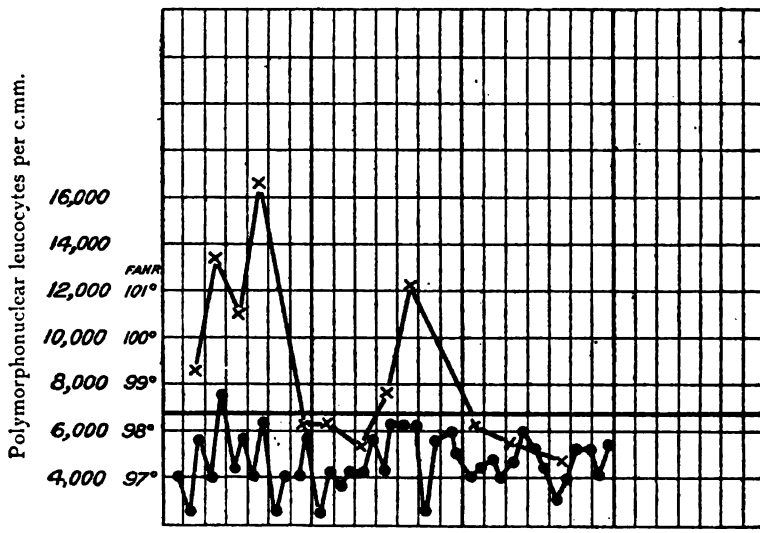
which are both of peculiar interest, will be again referred to when the blood changes are described. Chart 6 A is shown so that the temperature and leucocytosis in a case of sub-acute rheumatism may be compared with those of cases of mania.

The alimentary system in all forms of mania is in the early stages of the disease disordered. The lips, teeth, and tongue readily become covered with sordes, and over 90 *per cent.* of the patients admitted to the Perth District Asylum had carious teeth. The theory has been advanced that carious teeth alone

CHART 6.



Temperature and polymorphonuclear chart; mania (confusional type, chronic). ♀.

may, in a predisposed person, produce such a condition of toxæmia as to induce an attack of mania. I have seen cases in which the history of onset strongly supported this view. If one considers the absorptive capacity of the mucous membrane of the mouth for such toxines as nicotine, it is reasonable to suppose that the bacterial toxines produced by carious teeth will be absorbed with equal readiness. We make a point of removing all carious teeth in our maniacal patients, and the physical and mental improvement which follows such a procedure suggests that the toxines arising from carious teeth may well act as an accessory cause of toxæmia in such cases. It is

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LECTURE I.—CHART 7.

Mania. Control.

Bacteria of saliva.

LECTURE III.—CHART I.

Mania. Control.

Bacteria from fæces.

To illustrate Dr. Lewis C. Bruce's paper.

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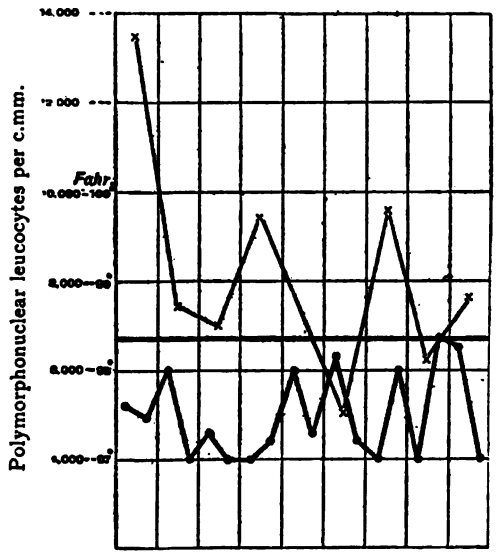
Adlard & Son, Impr.

a popular belief that the bite of an insane person is particularly poisonous, and, like many popular beliefs, there is in this a substratum of truth. When we come to examine the bacteriology of the saliva we find that the organisms are extremely numerous in the saliva, particularly in cases of confusional mania. I show by lantern slides tubes of nutrient media which have been inoculated from the saliva of such cases, and also a tube inoculated from the saliva of a man in health. It

CHART 6A.



Temperature and polymorphonuclear chart; sub-acute rheumatism.

will be noticed that the characters of the growths vary considerably, the colonies being more numerous, larger, and more uniform in the tubes inoculated from the saliva of cases of mania than in that inoculated from the sane person. Before these cultures were made the maniacal patients had had all carious teeth removed (Chart 7).

The digestive power of the gastric juices during attacks of acute excitement is practically in abeyance, but this is followed later by great digestive activity. In a state of health the gastric juice has a powerful bactericidal action. In states of mania, however, this action is sometimes deficient. From the stomach contents of several such patients I have isolated

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cocci which were extremely virulent to rabbits. The same remark applies to some of the organisms isolated from the saliva, whereas the organisms which I have isolated from healthy saliva are not toxic to rabbits even in large doses. It is possible, however, that these virulent organisms found in the stomach contents of cases of mania had been carried from the mouth to the stomach by means of the stomach-tube used to extract the stomach contents.

The digestive and assimilative power of the small intestine is probably also deficient, as maniacal patients, even if fed artificially with an abundant supply of nitrogenous food, continue to lose weight rapidly.

One further fact regarding the bacteriology of the intestinal tract may be touched upon here. If stroke cultures are made upon agar tubes from the fæces of man or the lower animals the resulting growth of the *Bacillus coli communis* is so great that all other organisms are obliterated. In over 50 *per cent.* of the cases of mania whose fæces were examined in this way I was struck by the fact that the *Bacillus coli communis* was not present in great numbers and that colonies of cocci were numerous. For instance, six agar tubes were inoculated from the fæces of a case of recent and acute confusional mania, and in none of the tubes was a single colony of the *Bacillus coli communis* to be detected, the only organisms present being streptococci. I have had lantern-slides made from tubes inoculated from the fæces of several cases of mania which will demonstrate much more clearly to you this peculiar change in the bacterial flora of the intestinal tract. Out of twenty-seven cases of mania in whom the fæces were bacteriologically examined fifteen showed this peculiarity. The patients, during the period at which these observations were made, were being fed on milk and farinaceous food.

The circulatory system, with its complicated nervous mechanism, reacts very readily to the toxines circulating in the blood of maniacal patients. The heart's action is, I believe, always affected centrally—that is to say, the toxines act upon the cardiac centres. Valvular lesions are stated to be more common in the insane than the sane, but the symptoms which have attracted my attention most are the attacks of syncope, sometimes fatal, to which maniacal patients are liable, and the rapid, irritable pulse-rate which precedes and follows,

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particularly attacks of mania with confusion. During the actual period of acute excitement the pulse-rate is largely affected by the excessive movements of the patient, but before, and particularly after, maniacal attacks the pulse-rate is a most valuable indication of the state of health. I have repeatedly seen patients, apparently recovered, with a pulse-rate varying between 90 and 120 per minute, and so long as such a symptom persists the patient is most liable to a relapse if great care

CHART 8.

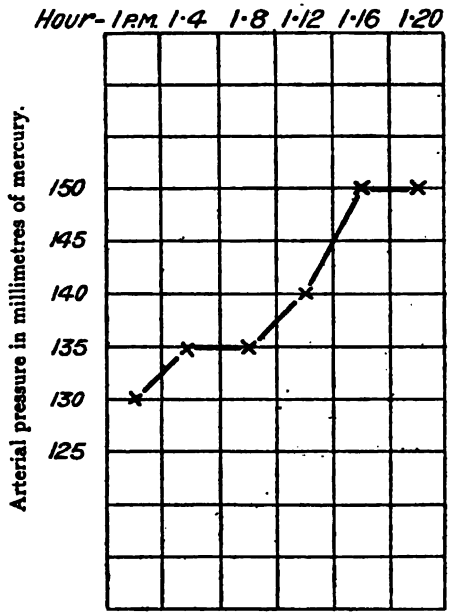

Chart showing the rise in arterial pressure at the onset of an attack of acute mania.

is not taken. My rule is never to allow a maniacal case out of bed so long as the pulse-rate is above 75 per minute.

The arterial tension is also altered in these cases. Maurice Craig states that the arterial tension is always low in maniacal states. This is partly true, but at the onset of acute excitement the arterial tension frequently rises. The chart thrown upon the screen shows the arterial tension of an adolescent male just at the onset of an acute maniacal outburst. The readings were taken with a Barnard and Hill's sphygmometer (Chart 8).

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Observations on the urinary excretion are interesting insofar that they demonstrate that maniacal states are very similar to febrile conditions, in the fact that the nitrogenous waste products of the body are greatly in excess of the nitrogen ingested in the food, and in that the excretion of the chlorides in the early stages of the illness is greatly diminished. In estimating the nitrogenous output I used Southey's ureometer, and in calculating the nitrogenous ingestion I relied upon standard physiological tables of the nitrogen value of various food stuffs, the quantity of food which each patient took being carefully recorded at each meal. A certain amount of error can hardly be avoided in using such a method, but the results obtained throughout a series of observations which extended over two years were so uniform that even admitting of error I submit that the records so obtained are of clinical value.

We were able to examine the urine in twenty cases of mania of all varieties. The longest observation extends over a period of six months and the shortest for fourteen days. In many cases the records were intermittent, as delirious patients often pass urine involuntarily, but even intermittent records when supplemented by complete ones are of value, and the result of the whole series of observations amounts to this, that during the early days of the illness the excretion of urea-nitrogen is far in excess of the urea-nitrogen value of the food ingested, and during this period the patients steadily lose weight. Then follows a stage when the nitrogen ingested and the nitrogen excreted balance, and the weight remains stationary. This is followed by the period of convalescence, when the urea-nitrogen excreted is far below the amount of urea-nitrogen value of the food ingested, and during this period the patient gains weight. The termination of convalescence was marked by stationary weight, and a return of the balance of the nitrogen excreted and the nitrogen ingested in the food.

The charts thrown upon the screen demonstrate this more clearly than any verbal explanation (Charts 9, 10, 11, and 12).

Chart 9 shows the urea excreted, the urea-nitrogen value of the food ingested, and the weight in lbs., in the case of a male adolescent suffering from mania of the confusional type. During the first week, the urea excreted averaged 475 gr. per day, as against 225 gr. of urea-nitrogen value in the ingested food.

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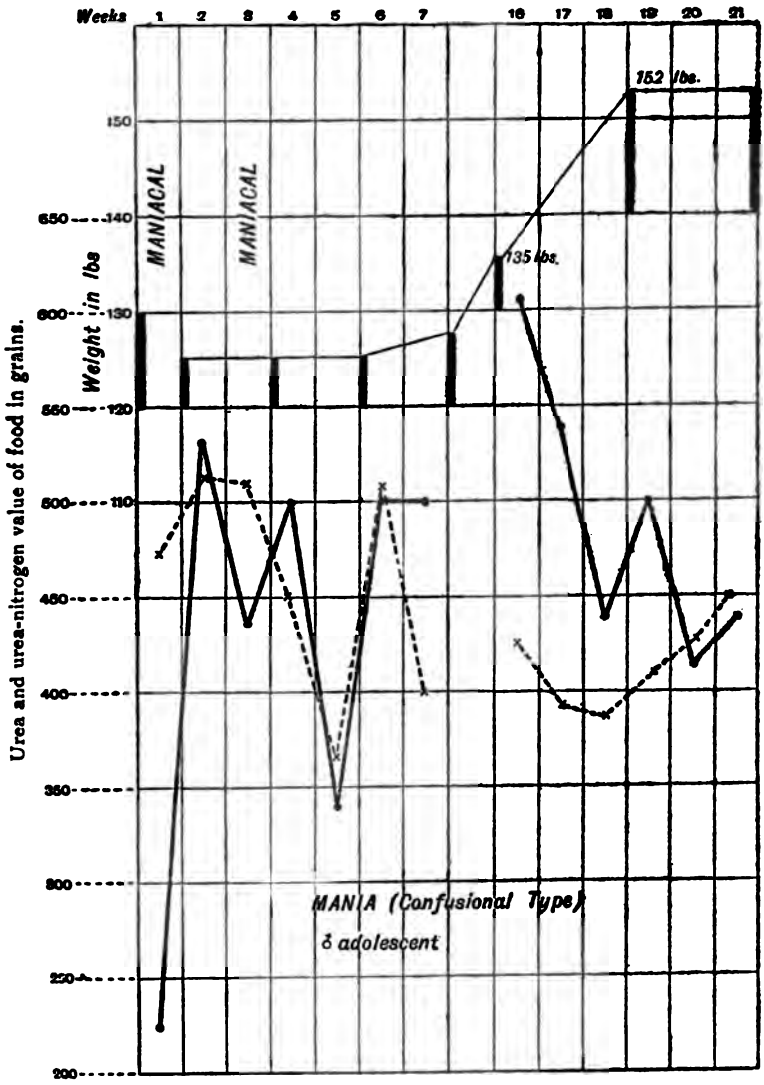
The weight decreased 5 lb. For the next five weeks the urea excreted and the urea-nitrogen value of the food ingested ran

CHART 9.



Urea excreted = x - - - - x . Urea-nitrogen value of food = •——•

parallel. The weight remained stationary. During the seventh week of the illness the urea excreted was only 400 gr.

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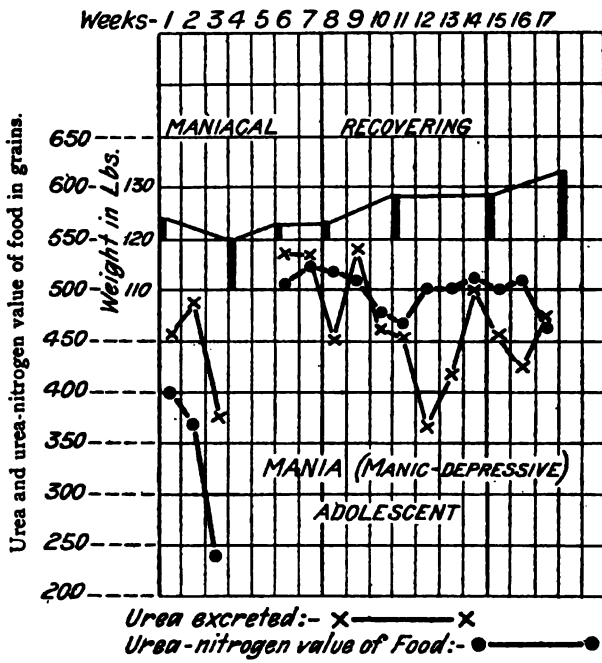
per day, as against 500 gr. of the urea-nitrogen value of the food ingested. There was a corresponding increase in weight. From the seventh to the sixteenth weeks the patient was in a state of lethargy, frequently wet, and the record was broken. During the sixteenth, seventeenth, eighteenth, and nineteenth weeks the urea excreted remained below the level of the urea-nitrogen value of the food ingested, and the weight increased from 135 lb. to 152 lb. For the next two weeks the

CHART 10.



excretion and ingestion balanced and the weight remained stationary.

Chart 10 shows the urea excreted, the urea-nitrogen value of the food ingested, and the weight in lbs., in the case of a male adolescent suffering from mania of the manic-depressive variety.

For the first three weeks the nitrogen excreted was constantly in excess of the nitrogen ingested, and there was a loss in body-weight. During the fourth and fifth weeks the patient was wet. During the sixth, seventh, eighth, ninth, tenth and eleventh

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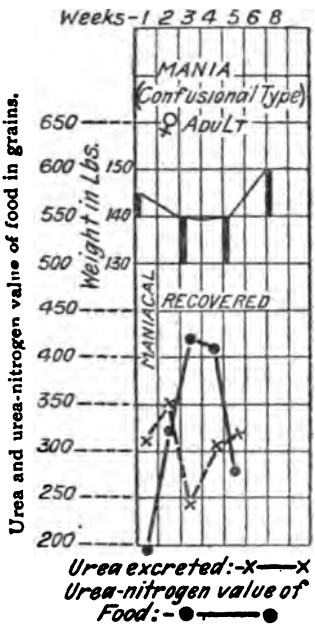
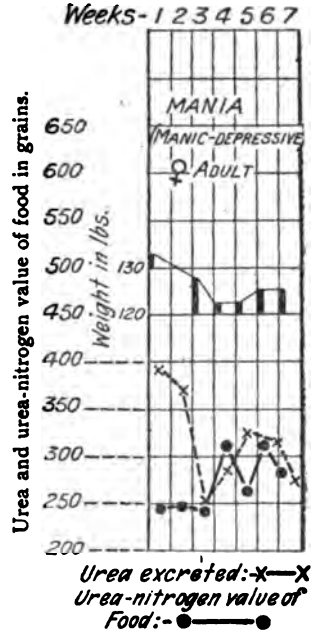
weeks, the nitrogen excreted and ingested fluctuated. During the twelfth, thirteenth, fourteenth, fifteenth and sixteenth weeks, the nitrogen excreted was less than the nitrogen ingested, and there was an increase in weight.

Chart 11 shows the urea excreted, the urea-nitrogen value of the food ingested, and the weight in lbs., in the case of a female adult suffering from mania of the confusional type.

The acute stage of the disease lasted for one week, during which the average daily urea-nitrogen excreted was 320 gr. as

CHARTS 11 AND 12.





against 190 gr. of the urea-nitrogen value of the food ingested. The weight fell 5 lb. During the second week, the nitrogen ingested and the nitrogen excreted practically balanced. During the third and fourth weeks the nitrogen excreted was far below the nitrogen ingested in the food, yet the weight remained stationary. During the fifth week the excretion and ingestion of nitrogen balanced.

Chart 12 shows the urea excreted, the urea-nitrogen value of the food ingested, and the weight in lbs., in the case of

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an adult female suffering from mania of the manic-depressive variety.

During the first two weeks of the illness the excretion of nitrogen was far in excess of the nitrogen ingested in the food and there was a loss in weight. During the succeeding five weeks the excretion and ingestion practically balanced one another. The weight slightly increased.

Summary of Lecture I.

(1) It is a commonly accepted belief that maniacal states are conditions of brain toxæmia or brain poisoning.

(2) It is also commonly accepted that hereditary predisposition is the chief predisposing cause of all insanities.

(3) As to the exciting causes of mania there are evidences of bacterial toxæmia.

(*a*) In the blood serum of over 90 *per cent.* of patients suffering from mania one can demonstrate the presence of an agglutinin which agglutinates the red blood-corpuscles of healthy persons. An apparently similar agglutinin is present in the blood serum of many sane and apparently healthy persons.

By infecting rabbits with streptococcal and staphylococcal bacteria a similar agglutinin makes its appearance in the blood serum of the infected rabbits.

The presence of such an agglutinin in the blood serum would, therefore, apparently indicate some form of streptococcal or staphylococcal invasion.

As both the sane and the insane may show this symptom of bacterial toxæmia, there must be some further factor in the production of states of mania, and this further factor is, probably, an inherited or acquired unstable nervous system. In other words, the sane and the insane may suffer from similar toxæmias, but, whereas the brain of the sane man is stable, and the toxines produce no mental symptoms, the brain of the insane man is unstable and readily becomes disordered by toxic action.

(*b*) Although the bodily temperature shows little evidence

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of toxic disorder a simultaneous observation of the white blood-corpuscles of the patient demonstrates that a state of marked toxæmia exists in nearly every case.

(*c*) The disorders of the alimentary tract are such as one would expect to find in persons suffering from toxic diseases. Further, the bacteriological flora of the whole alimentary tract is altered in at least 50 *per cent.* of the subjects of mania.

(*d*) Lastly, the nitrogenous excretion by the urine in the subjects of mania indicates an excess of metabolism similar to that found in known infective diseases.

LECTURE II.

To-day, by a description of the changes to be found in the solid and liquid constituents of the blood, further light can be thrown upon the obscure causation of the various forms of mania.

The blood-serum in a state of health contains certain anti-bacterial substances, amongst others, agglutinins and opsonins. The action of the agglutinins can be readily demonstrated *in vitro.* If the serum of a healthy man be mixed with a broth culture of the *Staphylococcus aureus* in the proportion of 1 part of serum and 19 parts of broth and the mixture be examined under the microscope, it will be found that the cocci are agglutinated generally within thirty minutes. The rapidity and the completeness of agglutination varies in different persons, and the serum of any given person varies in its agglutinative power from day to day. In twenty members of the asylum staff who were examined as controls, this staphylococcal agglutinating substance was present in every case. Similar agglutinins which act upon many of the streptococci can be demonstrated in the serum of healthy persons.

In addition to these normal agglutinins the blood may contain agglutinating substances directly the result of disease. We know, for instance, in typhoid fever, a disease due to a specific bacillus, that the blood serum contains an agglutinating substance which acts only upon the typhoid bacillus, and we also know that this agglutinin is rarely present in persons who

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have never been infected with typhoid. Since Grunbaum and Widal made this discovery other observers have recorded the presence of specific agglutinins in the blood serum of persons suffering from such conditions as Malta fever, *Bacillus coli* infection, etc., conditions, in short, where the organism causing the disease can be isolated from the patient and grown artificially. It is evident, therefore, that if in any patient suffering from an obviously toxic disease one can demonstrate the presence in the serum of a specific agglutinin to an organism which has been isolated from that patient or another suffering from a similar disease, which agglutinin is not found in the serum of persons in a state of health, this fact alone is suggestive that the patient is suffering from, or has recently suffered from, bacterial invasion by the organism which the blood serum agglutinates. In certain disease conditions, such as typhoid, the demonstration of the presence of a specific agglutinin in the blood serum to the typhoid bacillus is enough to clinch the diagnosis in a doubtful case. There are, however, certain organisms, particularly of the streptococci group, whose behaviour when mixed with serum is so uncertain that some workers go the length of saying that no reliance can be placed upon results based upon such observations as streptococcal agglutination. The fact that agglutinating substances to many of the streptococci group of organisms normally exist in the serum of healthy persons has apparently complicated this line of research. While admitting the difficulties to be encountered and the errors which may occur in such work, I have no hesitation in saying that specific agglutinins to certain of the streptococci group can be demonstrated in the blood serum of patients suffering from mania, and that this agglutinin is rarely present in the serum of apparently healthy subjects or in the subjects of mental diseases other than states of mania.

Some four years ago I isolated from the blood of a case of mania of the confusional type, in a typhoid state, a short streptococcus. The patient recovered, and out of curiosity I tested the blood serum of the patient to a broth culture of the organism in a dilution of 1 in 30, and agglutination was complete in thirty minutes. I found that agglutination occurred in dilutions of 1 in 100, but the reaction was slower. The sera of two control cases failed to give a reaction after twelve

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hours. Since then I have tested the serum reactions of some 204 patients, suffering from all varieties of mental disease, to this streptococcus. Ninety-three of these patients laboured under either one or the other of the two varieties of mania mentioned in the first lecture. Over 70 *per cent.* of these patients gave a definite agglutinative reaction. Of the 101 patients who suffered from mental diseases other than mania only 10, or 9·8 *per cent.*, gave agglutination. Further observations upon the bacteriology of patients suffering from mania yielded some five other strains of streptococci, very similar to that isolated from the blood of the case previously mentioned.

By using all the strains of streptococci thus obtained in these agglutinin observations I found that the presence of a specific agglutinin could be demonstrated in the serum of nearly every case of mania.

If one calls the members of the asylum staff and all the mental cases not maniacal in character, controls, then agglutination to one of the six varieties of streptococci was only obtained in 20 out of 126 cases, or 15·8 *per cent.*

Another interesting point is that over 60 *per cent.* of the maniacal patients were deficient in the normal protective agglutinin to certain strains of the *Staphylococcus aureus*, which agglutinin appears to be always present in healthy serum. My observations upon the leucocytosis in insanity have already been recorded, but as the present lecture would not be complete without reference to this branch of the investigation into the symptoms of mania, and as later observations have placed further interesting facts in my possession, I will describe the leucocytosis in mania as briefly as possible.

Before recording the white blood-corpuscles or leucocyte changes which occur in the blood of patients suffering from the various forms of mania, it is necessary that I should shortly lay before you the presently accepted views regarding the forms and the numbers of these cells which are to be found in healthy persons.

The leucocytes or white blood-corpuscles, according to recent observations, vary in health between 5,000 and 10,000 per c.mm. of blood. They often exceed 10,000 in women with a tendency to anæmia, and every now and then one encounters an apparently healthy person with a leucocytosis averaging 12,000 or 14,000 per c.mm. In some of these

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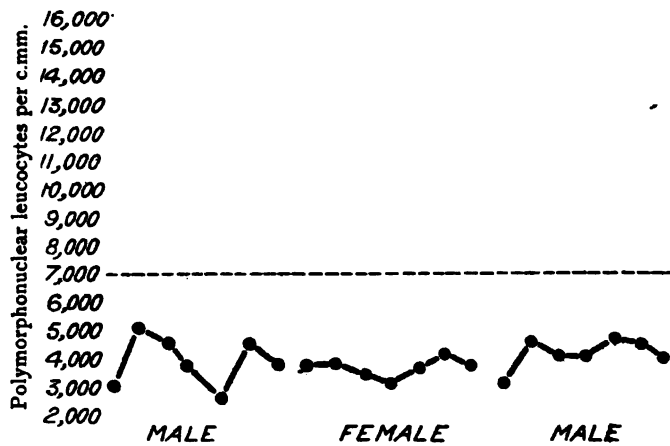
cases, however, one finds a cause for the hyperleucocytosis unknown and unsuspected by the patient.

The leucocytes consist of at least six varieties of cells :

(1) The multinucleated leucocytes with neutrophile granules, commonly spoken of as polymorphonuclear leucocytes, or shortly, as polymorphs. These cells are relatively and actually increased in many known diseases due to bacterial invasion, and now when making a leucocyte count it is recognised that it is more important to know the actual number of the polymorphonuclear leucocytes per c.mm. than to know only the number of leucocytes in a c.mm.

CHART I.



Polymorphonuclear leucocyte charts in three control persons.

The actual number of polymorphonuclear cells per c.mm. in eight control persons examined varied between 7,000 and 2,500, and the average in these persons was 4,829. All the charts which will be shown to-day are based on this system of calculating the polymorphs per c.mm.

These cells are actively phagocytic in function. They increase in the blood prior to the appearance of agglutinins, opsonins, and immune bodies in the serum, and it is probable therefore that they are glandular cells which secrete these substances.

(2) The small lymphocyte.

(3) The large lymphocyte.

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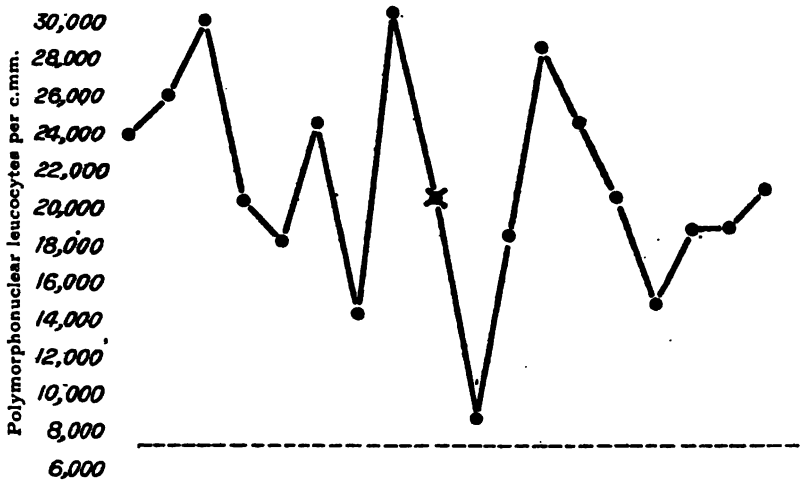
(4) The hyaline or mononuclear cell. These three varieties tend to run into one another, and their relative proportion in leucocyte counts are affected by the personal equation of the observer. Their functions are but little understood, beyond the fact that the large lymphocytes and hyaline cells are actively phagocytic.

(5) The eosinophile leucocyte. A bi-nucleated or multi-nucleated cell with large eosinophile granules. These cells increase in the blood during convalescence from some bacterial invasions, and are frequently increased after injections of bacterial vaccines. They become actively and selectively phagocytic after injections of bacterial vaccines, and it is

CHART 2.



Polymorphonuclear leucocyte chart in a case of puerperal mania (confusional).

probable that they also secrete some of the protective anti-bacterial substances. In the control cases they never exceeded 300 per c.mm. of blood, and I regard anything over 400 per c.mm. as abnormal.

(6) The mastellan leucocyte or mast cell. A leucocyte with a single lobed or double nucleus, the surrounding protoplasm containing large violet granules when stained by Jenner's stain. Their function is unknown.

During the last four or five years I and my assistants have examined the leucocytosis in 36 cases of mania of the manic-

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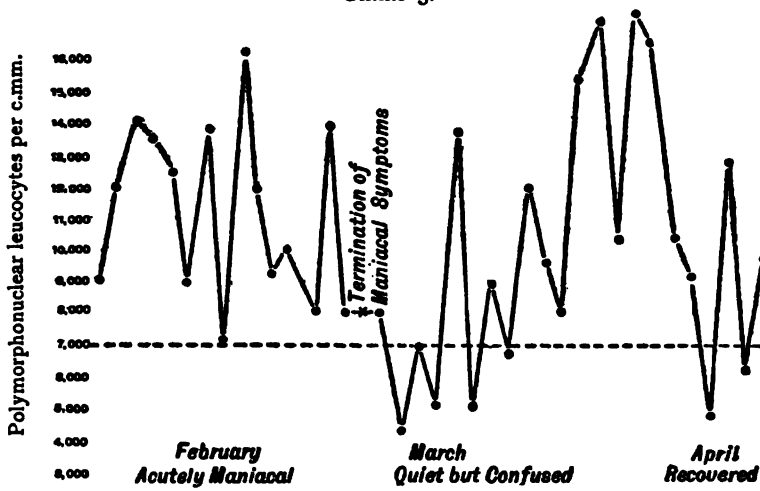
depressive type, and 31 cases of mania of the confusional type. The observations made upon these patients were continuous, extending in some cases for periods of over six months in each case. Isolated observations are practically useless in throwing light upon these obscure disease conditions.

Taking the average polymorphonuclear leucocytosis as 7,000 per c.mm., we have found a hyperleucocytosis of these cells in every case of mania examined.

In cases of recent mania of the confusional type, the leucocytosis is always high, and the higher the leucocytosis the more hopeful is the prognosis. In a patient who suffers from a short,

CHART 3.



Polymorphonuclear leucocyte chart in a case of mania (confusional type).

sharp attack of mania, and makes a rapid recovery, the polymorphonuclear leucocytosis is uniformly high, even after recovery is complete. And this hyperleucocytosis persists apparently indefinitely. In one female adolescent patient whose blood I have had opportunities of examining at intervals during the last three years, during which she has enjoyed sound mental health, I have always found a polymorphonuclear hyperleucocytosis present (Chart 2).

In cases of confusional mania who convalesce more slowly, the polymorphonuclear cells are at first greatly increased in number, then they subside somewhat, only to increase again as complete recovery takes place (Chart 3).

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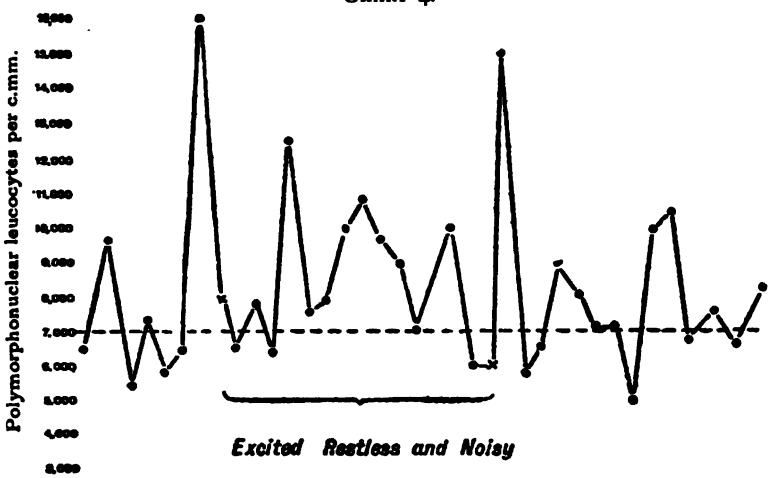
In patients who do not recover one of two things happens. Either the patient suffers from chronic mania with recurrent exacerbations of excitement, or the patient becomes demented. If the disease takes the form of chronicity with recurrent exacerbations the polymorphonuclear leucocytosis varies considerably, but presents distinct waves corresponding to the recurrent attacks of excitement (Chart 4). If the patient becomes demented then the polymorphonuclear leucocytosis falls belows the normal, as if to indicate that the patient was exhausted and unable to cope further with the toxæmia

CHART 4.



Polymorphonuclear leucocyte chart in a case of chronic mania (confusional type). This is a continuous daily record for thirty-six days.

(Chart 5). I have seen a few of such cases recover, however, if their leucocytosis was accidentally or artificially stimulated (Charts 6 and 7).

In cases of mania of the manic-depressive type, the symptom of hyperleucocytosis is often present and corresponds to the period of excitement; thereafter it falls to normal, and with the exception of an occasional rise remains at normal until another attack of excitement or an attack of depression sets in (Chart 8). In many of these cases of manic-depressive insanity, however, there is a regular sequence of events in the leucocyte curve which I am only able to show you in chart form in patients who suffered from short attacks. The period of excitement in many of these cases of manic-depressive insanity

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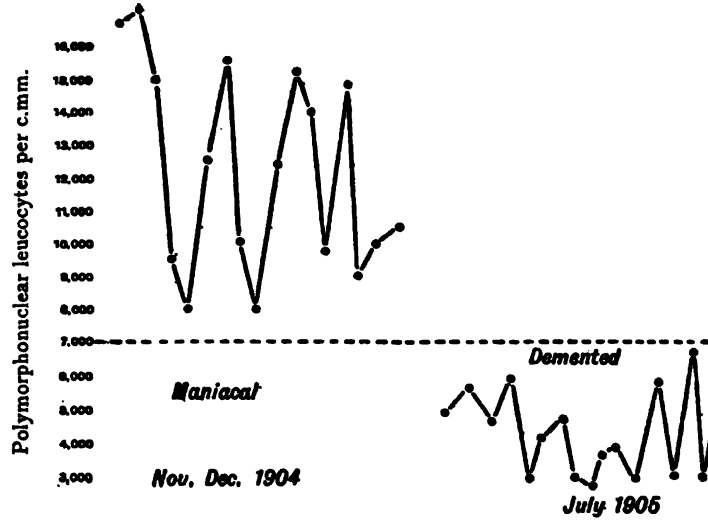
is so prolonged, lasting perhaps three and four months, that it is impossible to represent the leucocytosis in a lantern chart (Chart 9).

CHART 9.—The patient, a male, æt. 50, had suffered from short recurrent attacks of the manic-depressive insanity since adolescence. The attack, the leucocytosis of which is represented in the chart, commenced with depression, which lasted for a little more than a day, and the polymorphonuclear leucocytosis was 11,000 per c.mm. The following day it had fallen to 6,000, and the patient complained of pains

CHART 5.



in the joints which he ascribed to rheumatism. On the third day he was maniacal, and the polymorphonuclear leucocytosis had risen to 10,000 per c.mm. For the next nine days he was in a state of great elevation and excitement. It will be noticed that at the commencement and termination of the maniacal attack there were marked rises in the polymorphonuclear leucocytes, but that at the very height of the attack the polymorphonuclear leucocytes fell below 7,000 per c.mm. Recovery followed the last rise, and the leucocytosis at once returned to about 7,000 per c.mm. Subsequent attacks in this patient always presented the same sequence of symptoms and the same

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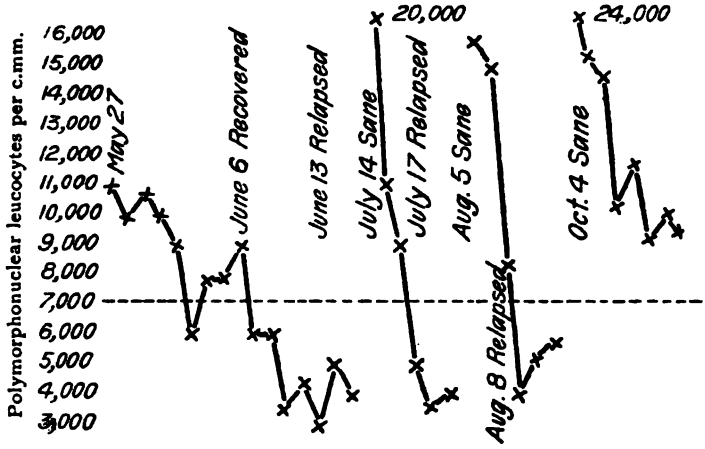
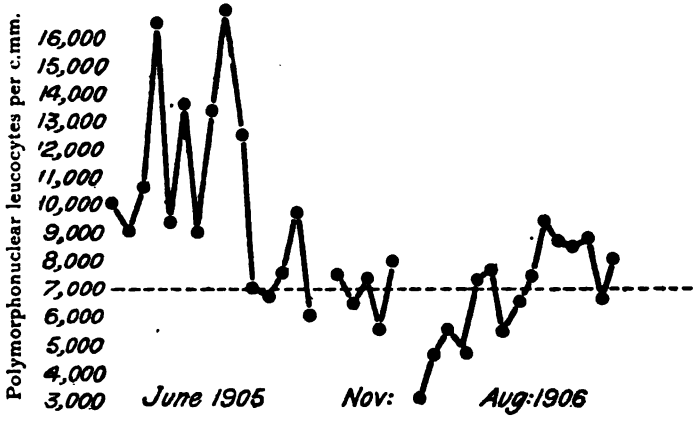
leucocyte curve, and similar records have been obtained in other

CHART 6.



Polymorphonuclear leucocyte chart in a male, æt. 24. Admitted May 27th, suffering from mania with confusion. Apparently recovered by June 6th. Relapsed June 13th. July 14th, suffering from dysenteric diarrhœa. Again sane. Relapsed July 17th. Similar attacks on August 5th and October 4th.

CHART 7.



Polymorphonuolear leucocyte chart in a female, æt. 30. During June. 1905, the condition was acute. By November she was apparently demented. No change occurred until August, 1906, when she was treated with nucleinic acid. The polymorphonuclear leucocytes immediately increased, simultaneously there was mental improvement and subsequent recovery.

cases where the attacks were so short as to facilitate continuous examination.

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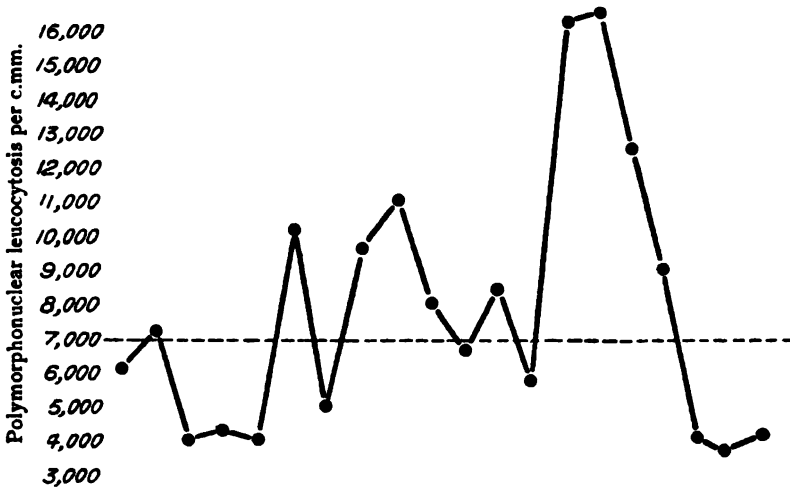
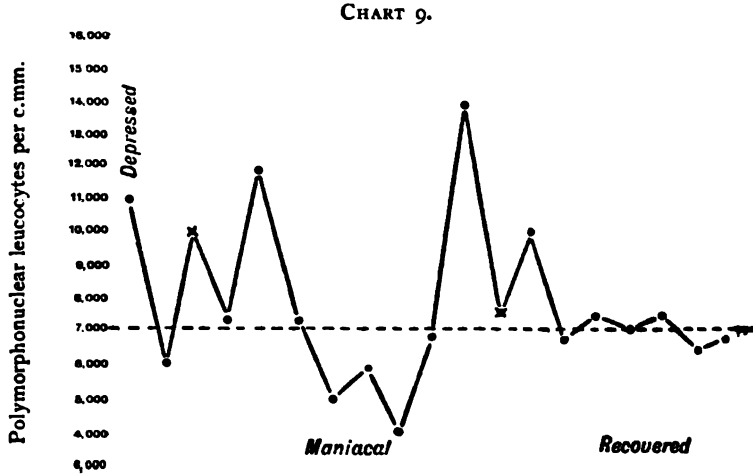
As interesting comparisons I show you two charts of hyperleucocytosis occurring in sane persons.

CHART 8.



Polymorphonuclear leucocytosis in a case of mania (manic depressive).

CHART 9.



Polymorphonuclear leucocyte chart in a case of recurrent mania (manic-depressive), showing the leucocytosis throughout the course of an attack.

Chart 10 is a case of rheumatic arthritis. The leucocytosis is shown for a period of fourteen days when the patient was

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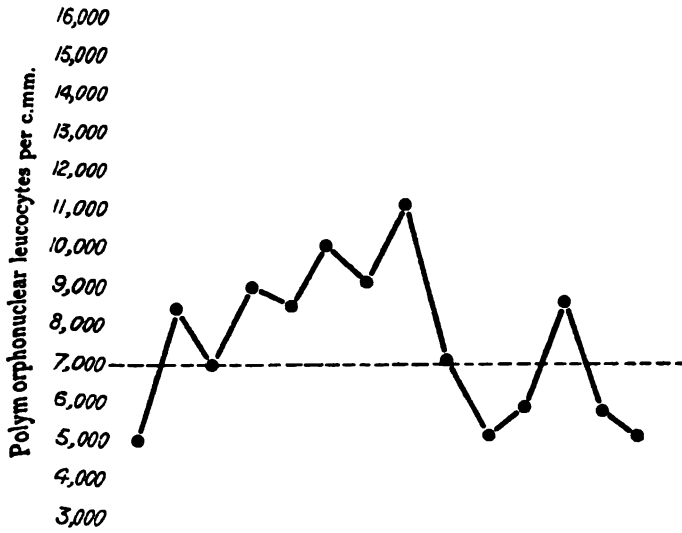
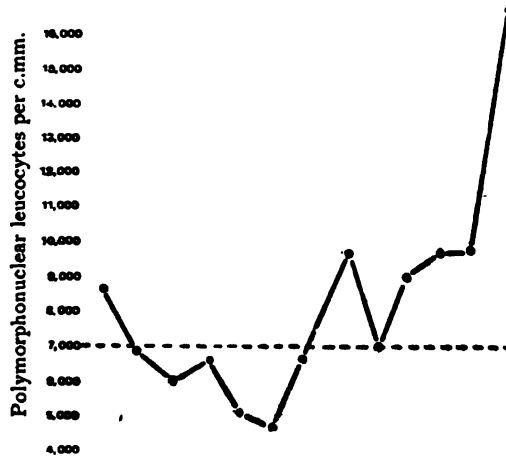
suffering from a recurrent attack of pain in the joints together with general malaise.

CHART 10.



Polymorphonuclear chart in a case of chronic rheumatic arthritis.

CHART 11.



Polymorphonuclear leucocyte chart in a case of fissure of the tongue.

Chart 11 is a member of the nursing staff who volunteered to act as a control to certain observations which we were

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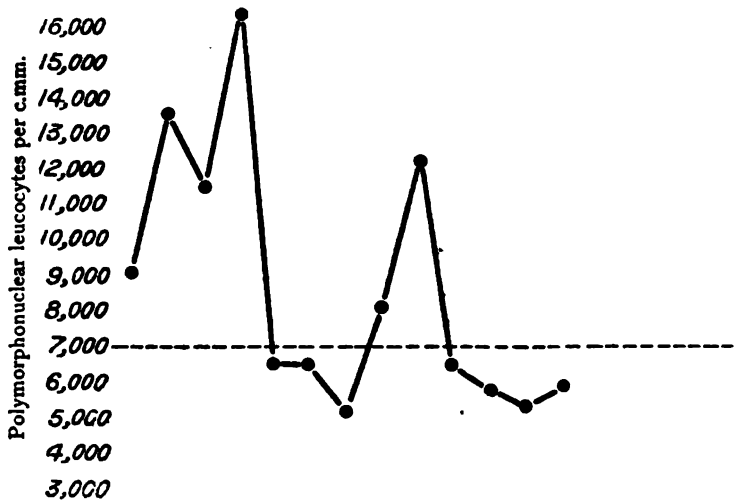
making on the tuberculo-opsonic index. It was noticed that her polymorphonuclear leucocytosis became high, the pulse was a little fast, but otherwise the subject appeared to be in excellent health. There was no disturbance of temperature. Her serum strongly agglutinated the washed red blood-corpuscles of a healthy person. It was only accidentally that we discovered that this control volunteer was suffering from a fissure of the tongue. A lesion only ½ in. long and ⅛ in. deep, and yet the resulting bacterial toxæmia, as indicated by the leucocytosis, is most marked.

In many cases the results obtained from leucocyte observa-

CHART 12.



Polymorphonuclear leucocyte chart in a case of supposed delusional insanity.

tions are of value in indicating the disease process when practically no diagnosis can be made from the mental symptoms alone.

Chart 12 shows the leucocytosis in a case of peculiar interest.

The patient, a married woman, æt. 34, was admitted suffering from delusions of suspicion. She was thin and poorly nourished, and the husband stated that he had observed a gradual change coming over her. She became irritable, changed in character, and at times exhibited violent temper on little or no apparent provocation. Then she suffered from hallucinations of hearing,

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which led her to suspect the presence of other people in the house, and finally she became suspicious of her husband, believing that he was trying to poison her. On admission she simulated a case of delusional insanity. She was apparently quite clear and sensible, answered questions, and expressed her delusions freely. On physical examination nothing could be detected beyond the fact that there was a hyperleucocytosis, which is not, as a rule, a symptom of delusional insanity. Further questions elicited the fact that she had been delivered of a child some two years prior to admission, and that since then she had occasionally suffered from a vaginal discharge. Upon examination she was found to be suffering from a fissure of the cervix about ½ in. deep and ¾ in. long. The discharge from the fissure when inoculated upon agar gave a rich growth of streptococci. Her blood-serum strongly agglutinated a streptococcus obtained from a case of confusional mania. The local lesion was treated and healed in two months, and the patient made a perfect recovery. She remembered everything that had happened prior to and since her admission, but she stated that the period of her existence corresponding to her illness seemed to her to be like a dream. It was quite evident, therefore, that there had been a considerable amount of mental confusion, and I regard this case as one of confusional mania in whom the symptom of maniacal excitement had been suppressed.

Chart 13 is a very similar case, occurring in a married woman, æt. 50. For several years she had been irritable, delusional, and morbidly suspicious of her husband. She searched his clothes, read his letters, and had all his movements secretly watched, because upon one occasion she had discovered a hair upon his topcoat, which was certainly not her own. She was sent to me as a case of chronic delusional insanity.

On admission the only symptom which we could detect was a hyperleucocytosis, and she looked thin, pinched, and badly nourished.

The nurse reported, however, that the patient had a vaginal discharge, and upon examination she was found to have an intra-uterine fibroid. The discharge from the uterus was swarming with organisms, chiefly streptococci. Her blood serum contained agglutinins to a streptococcus isolated from

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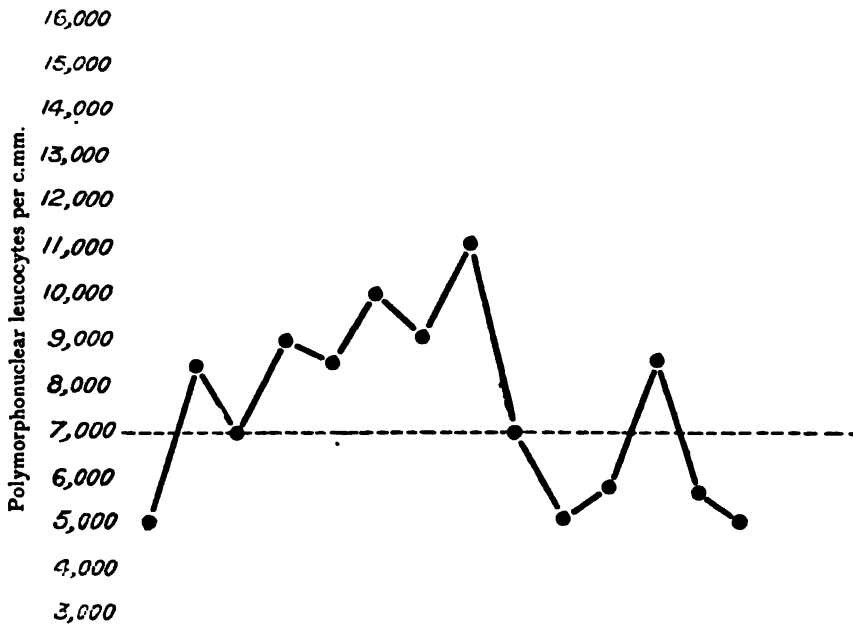
an undoubted case of confusional mania. In this case, as in the previous one, we demonstrated the presence of a bacterial toxæmia, with the probable local lesion. The patient was removed by her friends.

Chart 14 throws some light upon the vexed question as to whether alcoholism is a cause or a symptom of insanity.

The patient, a male, æt. 34, was admitted suffering from hallucinations of sight and hearing, and also delusions. His history was that for years he had been drinking heavily; was

CHART 13.



arrested by the police, found to be insane, and transferred from the prison to the asylum.

On admission he appeared well nourished and healthy. He had undoubtedly vivid hallucinations of sight and hearing, and he was dangerously impulsive. Upon two occasions he made sudden unprovoked attacks upon the night-attendants who were in charge of the dormitory in which he slept. Such attacks are very typical of alcoholism. He presented a very marked hyperleucocytosis, but no temperature. From his

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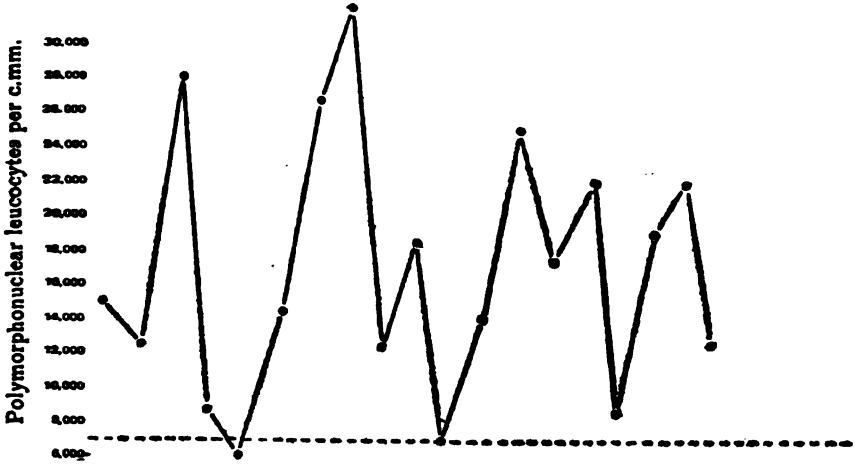
urine my assistant, Dr. Howard, isolated a streptococcus which was agglutinated by the patient's serum in a dilution of 1 in 20 within an hour, while the sera of control persons gave no reaction. The bacterial examinations of the fæces gave an almost pure growth of streptococci, the *Bacillus coli* being practically absent.

He recovered after a residence of four months, but during the whole period of his stay in the asylum he presented this symptom of hyperleucocytosis.

Chart 15 shows the leucocytosis in a similar case occurring in a male, æt. 20. The patient was of the degenerate type. He

CHART 14.



Polymorphonuclear leucocytes in a case of so-called alcoholic insanity.

had been three times discharged from the army for drunkenness. He was admitted suffering from hallucinations of hearing and sight. Beyond general tremulousness of the muscular system he presented no symptoms except a hyperleucocytosis. His serum contained agglutinins to several strains of streptococci isolated from cases of undoubted confusional mania. During his residence in the asylum he suffered from several slight attacks of restlessness, associated with a return of the hallucinations of hearing. He was eventually transferred to a neighbouring asylum.

Both these patients were undoubtedly cases of alcoholism, but the fact that they presented definite symptoms of bacterial

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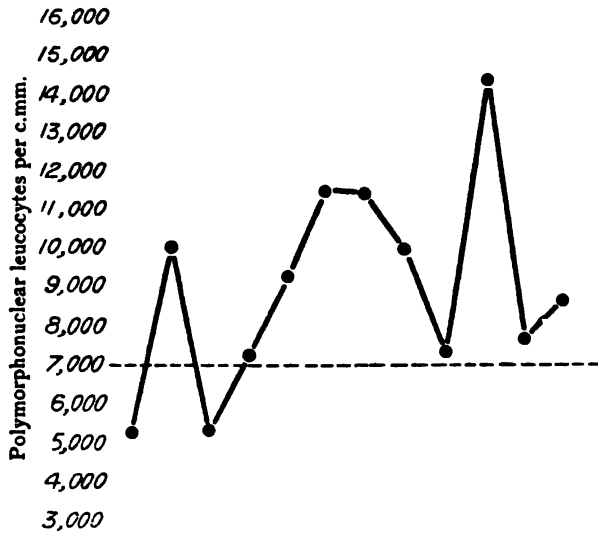
toxæmia suggests that the alcoholism was a symptom rather than a cause of their mental state. Since these observations were made three additional cases of chronic alcoholism have been examined, and they all presented the same physical symptoms.

Chart 16 shows the leucocytosis in a female, æt. 26. The girl was sent to the asylum because she was unmanageable at home.

On admission, the patient showed the very common symptom in adolescent cases of arrested development, but no mental or

CHART 15.



Polymorphonuclear leucocyte chart in a case of so-called alcoholic insanity.

physical symptoms of disease could be detected. Her blood was regularly examined, and very shortly after admission a hyperleucocytosis was noted, together with a quick pulse of over 100 per minute. She became irritable and quarrelsome, sometimes refused food, and behaved like a petulant child. This condition lasted for about a week or ten days, and then passed off, the leucocytosis falling to about 7,000 per c.mm., and the pulse-rate to between 60 and 70 per minute. Her serum showed agglutinins similar to the cases already cited. Several similar attacks have occurred with similar physical symptoms. If no observations had been made upon the

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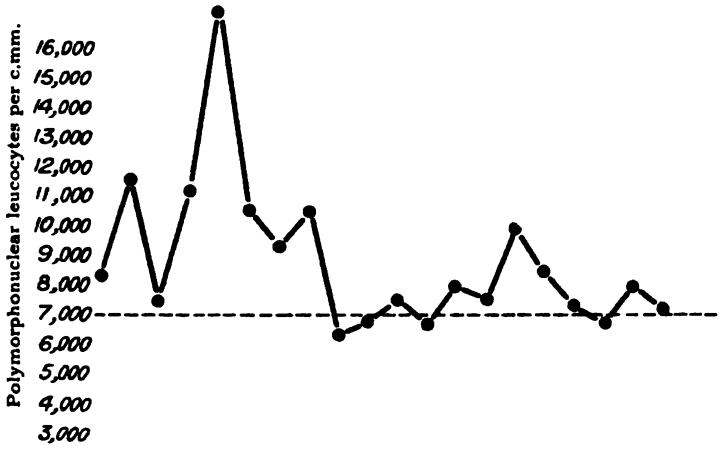
leucocytosis and serum reaction, these periodic attacks would have been ascribed to fits of bad temper, whereas all the symptoms point to the patient as being a masked case of confusional mania.

The consistency of the results shown by these blood observations alone are, in my opinion, suggestive. They suggest bacterial invasion and that the victims of confusional mania suffer from a chronic insidious toxæmia, not only during the maniacal attack, but for a subsequent indefinite period. The mania, in fact, may be only an accidental symptom of the disease; while the manic-depressive cases suffer from recurrent

CHART 16.



Polymorphonuclear leucocytosis in a case of atypical mania of the confusional type.

attacks of toxæmia. But whatever the significance of this symptom may be these observations are facts, not fiction, which future workers may relegate to their proper sphere when the great problem of the causation of mania is solved.

Doubts have been thrown upon the accuracy of these records, but I know of no observer who has conducted similar observations, dividing the various forms of mania from one another, or made continuous observations extending over weeks and months. There is also this additional fact, that six different workers in the Murthly Laboratory, several of whom were sceptical, have corroborated these results, and further, ou

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collective observations upon the leucocytosis of healthy persons tally with those of accepted published records.

Summary of Lecture II.

The blood serum in health contains protective agglutinins to certain strains of staphylococcal and streptococcal organisms. These protective agglutinins cannot be demonstrated in the blood serum of over 60 *per cent.* of maniacal patients.

In addition to these agglutinins which we may call normal agglutinins, the blood serum may contain agglutinins directly the result of disease, an example of which is the typhoid agglutinin which appears in the blood serum as the result of an attack of typhoid fever. Such agglutinins are known as specific agglutinins because they act only upon the infecting organism.

In the blood serum of patients suffering from mania, specific agglutinins to certain organisms of the streptococcal group can be demonstrated to exist, and similar agglutinins are rarely present in the blood serum of apparently sane and healthy people. The streptococcal organisms with which these observations were made were isolated from the blood, urine, and fæces of maniacal patients.

The leucocytosis, or the number of white blood-corpuscles in the blood of maniacal patients, is greatly increased, and this increase is largely due to an actual and relative increase in the polymorphonuclear leucocytes. A hyperleucocytosis of the polymorphonuclear leucocytes is generally regarded as an evidence of bacterial toxæmia.

Continuous blood observations in cases of confusional mania reveal the further fact that after recovery from the maniacal attack the patients present this symptom of hyperleucocytosis, and it is reasonable to suppose that this evidence of toxæmia was also present before the maniacal attack. In other words, in the type of mania which I call confusional, the disease is a chronic, insidious toxæmia of which the maniacal attack is only an incidental complication.

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LECTURE III.

In the first lecture I dealt with the physical symptoms which occur in cases of mania. I drew attention to the commonly accepted belief that maniacal states are conditions of brain-poisoning. It was shown that the blood serum in over 90 *per cent.* of maniacal patients contained an agglutinin which agglutinated the red blood-corpuscles of healthy persons. This agglutinin can also be demonstrated in the serum of over 50 *per cent.* of persons who are sane and apparently healthy, and can be artificially produced in the lower animals by infecting them with coccal organisms. The presence of such an agglutinin in the blood serum was therefore taken to indicate some form of coccal invasion, but as the sane as well as the insane present this symptom some further factor must assist in the production of maniacal states, and this further factor was stated to be an inherited or acquired instability of the nervous system, which would render it peculiarly liable to disorder from states of toxæmia.

The evidences of general failure of nutrition, the disorders of the alimentary tract, and the character of the nitrogenous excretion by the urine are all such as would lead one to expect that maniacal states are closely allied to the diseases known as infective.

In the second lecture I mentioned the fact that the blood serum of healthy persons contains protective agglutinins to certain strains of coccal organisms, and that these protective agglutinins cannot be demonstrated in the blood serum of over 60 *per cent.* of patients suffering from mania. In addition to these normal agglutinins the serum of maniacal patients was shown to contain specific agglutinins to certain strains of streptococci isolated from the blood, urine, and fæces of such patients.

The hyperleucocytosis found in patients suffering from mania was described, and it was pointed out that the increase of the polymorphonuclear leucocytes was strong evidence of bacterial toxæmia.

I divided cases of mania into two great classes: mania of the confusional type, and mania of the *folie circulaire* type or

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manic-depressive insanity. In this lecture I merge all manias into one great group.

If, as indicated in my first two lectures, the diseases known as mania are due to bacterial toxæmias, then the natural question arises, what organism or class of organisms produce the toxæmia, and how do they attack the patient? To answer these questions it is necessary to describe in detail the various observations undertaken to discover the organism.

My first observations were conducted as follows: I argued that if the organism was circulating in the tissues it might be possible to obtain it in pure culture from a sterile necrotic area. I knew that the subcutaneous injection of certain irritants produced a hyperleucocytosis which frequently improved the condition of the patient, and I combined this method of treatment with bacterial investigation. I injected, therefore, with aseptic precautions from ·5 to 1 c.c. of terebine subcutaneously. In the course of a week an abscess formed, and from 1 to 2 c.c. of the abscess contents were then withdrawn hypodermically with a needle attached to a syringe. The pus so obtained was mixed with nutrient broth and incubated at 37° C. for twenty-four hours. The whole operation was conducted painlessly with local anæsthesia. Out of fifteen such abscesses I isolated a short diplo-bacillus in seven cases. The remaining abscesses were sterile. I merely mention this work to dismiss it, because after working with this organism for some six months I came to the conclusion that it had nothing to do with the disease, and was possibly an accidental contamination.

I next directed my attention to the blood, and by means of a 10 c.c. glass syringe attached to a needle, 10 c.c. of blood was withdrawn from any prominent vein in the forearm and transferred to two flasks each containing 250 c.c. of sterile bouillon. In some instances these flasks were immediately placed in the incubator at 37° C.; in others twenty-four hours were allowed to elapse prior to incubation to allow the leucocytes to die and so inhibit their phagocytic action. The blood was examined in this manner in fifteen cases of mania—all acute recent cases. In twelve of the observations the flasks were sterile at the end of seventy-two hours, two were accidentally contaminated, and only one yielded a short streptococcus, which was eventually proved to be in some way connected with the disease process. As mentioned in the previous

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lecture, it was found that the blood serum of the patient from whom this organism was obtained agglutinated the organism in dilutions up to 1 in 100, and that similar agglutinins were found in over 70 *per cent.* of all the cases of mania subsequently examined, while control persons and insane patients who were not suffering from mania only gave agglutination in a proportion of 15·8 *per cent.* This single successful blood observation was of immense service in stimulating further research, but it was obvious that blood observations alone would not yield satisfactory results.

With the help of my assistants I therefore turned my attentions to the bacterial examination of the urine. In the male cases the urine was passed directly into sterile urine glasses, and in the women urine was drawn by means of a sterilised catheter. By neither of these methods can sterile urine be obtained, because the urethra invariably contains organisms which are either washed out by the urine or infect the catheter employed. I trusted to the fact, however, that if we obtained an infecting organism the blood serum of the patient would agglutinate it, and this was the test which we employed in every case to separate the infecting from the non-infecting organisms. Control serums were, of course, used in every case.

The first fact which we noted in the urine observations was that the urine of patients suffering from mania contains, when examined microscopically, a very large number of various forms of organisms. To control these observation we examined the urine of healthy males and compared the results with those obtained from the examination of the urine of male patients suffering from mania. The method of examination was conducted as follows: The urine, immediately after being passed, was taken to the laboratory; 30 c.c. were divided equally between two sterile centrifuge glasses and subjected to centrifugalisation for ten minutes. The supernatent fluid was then pipetted off, leaving 1 c.c. in each glass. A sample was taken from each glass and examined microscopically, and the remainder was then distributed equally between two agar plates, allowed to solidify and placed in the incubator at 37°C. to incubate for twenty-four hours. The urine of the maniacal male patients was found to present microscopically great numbers of bacteria, chiefly coccal organisms, while the urine of five control males showed only a very small proportion of

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organisms. In spite of the fact that the urine of the maniacal patients, when examined under the microscope, presented a large number of organisms, in several instances the number which actually grew upon the agar plates was very small in proportion. On the other hand, the urine of the control males when incubated on agar plates presented often as many as 300 colonies in each plate. It is inferred from this that a large percentage of the organisms in the urine of the maniacal patients were dead and had probably been excreted by the kidneys, while the organisms in the control urines were living and had probably been washed out of the urethra. Counting both male and female cases the urine was bacterially examined in twenty cases, and from the organisms so obtained only two were agglutinated by the blood serum of the patient yielding the organism. Control sera failed to agglutinate either of these organisms. Both organisms were short streptococci. In none of these patients was the urine offensive, nor did we suspect bacilluria until microscopic examination was made. According to the researches of Adami the presence of organisms in the urine may be explained as follows: Adami found that if the livers and kidneys of apparently healthy animals were removed with antiseptic precautions and placed in agar and incubated, that organismal growth was obtained in nearly every case. He believes that under ordinary conditions the leucocytes pass out through the mucosa on to the free surface of, more especially, the alimentary tract, some of these cells there undergoing destruction, while others, now laden with various foreign matters, including bacteria, pass back into the submucosa and find their way into either the lymphatic channels or into the portal venules. Such isolated bacteria which may have escaped leucocytal destruction or removal by the lymphatic glands, or by the endothelium of the portal system, may pass either through the thoracic duct or through the liver and enter the systemic circulation, from which they are eliminated chiefly by the kidneys. Such a condition is known as "latent infection" or latent microbism," and is compatible with perfect health.

The intestinal tracts of patients suffering from mania, present *post-mortem*, catarrhal areas. Dr. Ford Robertson, the Pathologist of the Scottish Asylums, examined such a condition in the ileum of a very acute case of mania of the confusional type, who died

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in the typhoid state. His report is as follows: "In the ileum the mucosa was narrowed, the villi were diminished in number, fibroid and atrophied. There was great increase of interglandular fibrous tissue, and the bases of many of the glands were, in consequence, widely separated from one another, while the submucosa showed fibrous thickening." In his opinion the condition was one of severe chronic atrophic catarrh. There was also, in this case, fatty changes in the epithelial cells of the liver. I have noticed similar changes in the small intestines of nearly every case of mania examined *post-mortem*. The presence of such lesions may possibly explain the presence of such numbers of organisms in the urine, as a catarrhal condition of the intestine would naturally favour the presence of leucocytes, which would be attracted to the area by chemiotaxis.

The fifteen blood and twenty urine bacterial observations had so far, therefore, yielded only three organisms which were agglutinated by the blood serum of the patients from whom the organisms were obtained, but beyond the fact that they all belonged to the streptococci group they differed somewhat from one another in their growth characteristics and in their agglutinating sensibility when tested with the serum of various cases of mania. The researches of Adami, however, naturally suggested the intestinal tract as a field for bacterial investigation. We, therefore, made cultures from the fæces of cases of mania. The technique was as follows: A small portion of the fæces was taken immediately after being passed. A straight platinum needle, sterilised by flame, was charged once from the centre of the mass, and successive stroke cultures were then made on a series of six agar tubes, three strokes being made upon each tube. These tubes were then placed in the incubator and incubated at a temperature of 37° C. for a period of twenty-four hours. Twenty-seven observations were made on twenty-seven different cases, and it was noted that colonies of cocci were very numerous in the bacterial flora of fifteen of these maniacal patients (Chart 1). Upon examination it was found that these colonies of cocci were in almost every case streptococci. Control observations made upon the fæces of healthy persons and cases of insanity other than the subjects of mania, very rarely yielded more than one or two colonies of streptococci, whereas, in some of the maniacal patients the streptococci were by far

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the most numerous organisms present. Houston, in examining the bacteriology of the fæces in twenty healthy persons, found streptococci in excess in one case. Subcultures were made from these colonies of streptococci obtained from the fæces, and each individual patient's serum was tested to broth cultures of these organisms to ascertain if specific agglutinins were present. Control sera from healthy persons were used in every case to check the agglutinating experiments. Organisms, to which such agglutinins could be demonstrated to exist in the patient's serum and to be absent from the sera of control persons, were found in six of the maniacal patients. In one case the same organism was isolated both from the urine and the intestinal tract. The mere presence of large numbers of streptococci in the intestinal flora was no indication that specific agglutinins would be found in the blood serum of the patient. For instance, in one patient ten different colonies of streptococci were isolated from the fæces, but the patient's serum agglutinated only one of these. In another case fourteen colonies of streptococci were examined, but none of them were agglutinated by the patient's blood serum. In many instances the streptococci obtained were agglutinated both by the patient's serum and the control sera, while in other cases the control sera produced rapid agglutination, but the organism was not affected by the patient's serum.

The characteristics of these eight organisms obtained from the blood, urine or fæces, are as follows:

Microscopically they appear as short chains of four, five, six, seven and eight cocci, or just as frequently as diplos. They stain readily with all aniline dyes, and they hold Gram's stain. They all grow at the ordinary atmospheric temperatures except No. 1, obtained from the blood, which, when first grown on artificial media, showed no capacity for growth at the room temperature, but was capable of long life under such conditions, as an inoculated agar tube, after being kept for a month at room temperature, upon being incubated for twenty-four hours at 37° C., produced a characteristic growth. After passing through several subcultures this organism was found to have acquired the power of growing at ordinary temperatures. In broth they all form an uniform turbidity in less than twenty-four hours, and they turn the media acid. Stab cultures in gelatine grown at 22° C. show as a pale, clear streak, which in all

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eventually becomes feathery along the edges. There is little surface growth. No. 1, after being subcultured for two years, was found to liquify gelatine—a characteristic which it did not possess when first obtained. Stroke and smear cultures on sloped nutrient agar tubes grow as thin, bluish-white streaks or smears, which, under magnification, are seen to consist of numerous small translucent colonies. The size and opacity of these colonies differed considerably in some of the organisms when first obtained, but after several subcultures had been made they all tended to one type of growth. All grew in litmus milk, which was curdled by four of the eight organisms, while the blue litmus was changed to red by seven.

When tested on animals their action was obscure. Intravenously in rabbits in doses ranging from ·1 c.c. to 2 c.c. they produced a slight febrile reaction. Intra-peritoneally in rabbits in doses ranging from ·5 c.c. to 5 c.c. they produced no outward result, but young rabbits so infected almost invariably developed paralysis of the hind quarters in from one to two months from the date of infection. Several of these infected animals died, but no lesion could be demonstrated *post mortem*. In one, however, a pure culture of a streptococcus was isolated from the heart-blood, which, in appearance, growth, characteristics, and to a slighter degree in its agglutinating properties, resembled the infecting organism.

Subcutaneous injections of doses ranging from ·1 c.c. to 2 c.c. produced no suppuration, but repeated injections produced rapid loss of body-weight, although the animal continued to take food well, and did not appear to be ill. The fact that these organisms are not pus producers separates them from the pyogenic streptococci, and allies them to the *Micrococcus rheumaticus*. Attempts were made to immunise two goats, with the view of obtaining an anti-serum, but both animals rapidly lost weight, and the injections were discontinued. Neither appeared to be ill; they took food greedily, and were active and energetic. Both died some months after the injections had been discontinued, apparently of some intercurrent disease, the nature of which I did not understand.

A sheep, which was immunised by weekly injections of doses commencing at 1 c.c. of mixed broth cultures of four of the organisms, the dose being gradually increased to 4 c.c. at the end of six weeks, very rapidly lost weight, but was otherwise

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apparently healthy. Serum was taken from both the goats and the sheep and tested in the laboratory, and also used in the treatment of cases of mania. In the laboratory no immune body could be demonstrated *in vitro*, and when injected into cases of mania in doses ranging from 10 c.c. to 20 c.c. the only result noticed was a fall in the pulse-rate. Although these attempts to produce anti-serums were unsuccessful, I still believe that there is a field for the use of anti-serums in such cases. According to Ehrlich's theory, in a condition of toxæmia the patient's blood contains toxine molecules, which gradually stimulate the cells of the body to throw out antitoxine molecules, which, by combining with the toxine molecules, render them inert. When one immunises an animal against toxines, these antitoxine molecules are in excess in the blood serum of the immunised animal, and it is probable that the injection of a large dose of such antitoxic molecules into a patient suffering from mania would produce a temporary remission sufficiently prolonged to allow of the natural defensive processes of the body to come into play. A polyvant serum would, of course, be a necessity, as the streptococci found in connection with these disease processes are not identical.

Having failed to obtain an efficient anti-serum, it occurred to me that the patients might form their own immune bodies if dead cultures of the organisms which they agglutinated were injected subcutaneously. The earliest of these observations were made before Wright published his researches on opsonins and pointed out the necessity for the exhibition of small doses. The initial doses of vaccine used at Murthly were all too large. It was found that the injection of a ·5 c.c. dose of a broth culture of these organisms when injected subcutaneously into a maniacal patient produced an exacerbation of the mental symptoms, corresponding to Wright's negative phase. This was followed by a temporary improvement corresponding to Wright's positive phase, but the results were very transitory, and in several patients, after a period of treatment extending over six weeks, no immune body could be demonstrated to exist in the blood serum when tested *in vitro*. During and corresponding to the positive phase the polymorphonuclear leucocytes were always increased.

After Wright published the results of his researches upon the opsonic indices in tubercle and *Staphylococcus aureus*, we

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examined the opsonic power of the blood serum in our maniacal patients, using as the testing organism the variety of streptococcus which each particular patient agglutinated. These observations were continuous in each case, and in some instances we were fortunate enough to obtain records throughout the whole period of short attacks of manic-depressive insanity and of confusional mania.

With the help of my assistant, Dr. C. J. Shaw, I made control observations on members of the asylum staff.

I am also able to show you opsonic index charts in the case of chronic rheumatic arthritis and the control who suffered from a fissure of the tongue. The testing organism used in the case of rheumatic arthritis was the *Micrococcus rheumaticus*, a culture of which was kindly given to me by Dr. Dowson, of the Wellcome Research Laboratory. And the testing organism used in the case of tongue fissure was a variety of streptococcus which the patient's serum partially agglutinated.

In estimating the opsonic index we followed the technique introduced and described by Wright. An emulsion was made from a twenty-four hours' agar culture of the organism, which, when necessary, was shaken up with sterilised glass beads to insure subdivision of the cocci. Blood-corpuscles, usually taken from a control person, were washed in 1 *per cent.* citrate of soda solution and then in normal saline. A sufficient quantity of serum was obtained from the patient and also from a control subject. It is certainly more accurate to mix two or three control sera, but we were not able to do this frequently, but we tested our control sera every now and then against one another and found them fairly steady in their reaction.

Equal quantities of emulsion, blood-corpuscles, and serum were then mixed, drawn into a capillary tube, and incubated for fifteen minutes at 37° C. The contents of the capillary tubes were then blown on to slides, made into a film, dried, and stained. The films were then examined under a microscope, the oil-immersion lens being employed, and the number of organisms ingested by 30, 40, 50, or 60 polymorphonuclear leucocytes were counted in both the patient's and the control films. The number of organisms ingested by the polymorphonuclear leucocytes in the patient's film were divided by the number of organisms ingested by an equal number of polymorphonuclear leucocytes in the control's film, the result being

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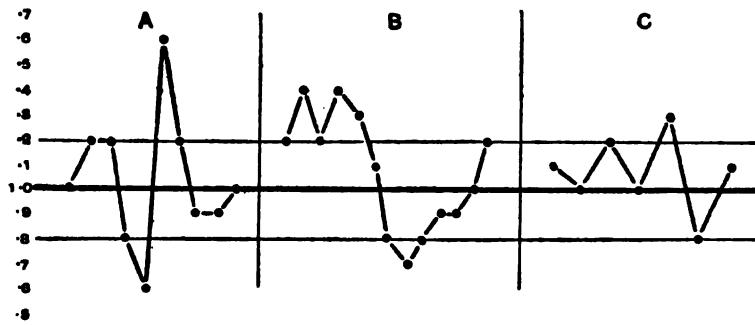
the opsonic index of that patient to the particular organism used in the observation.

The average opsonic index of health, as found by Wright and other observers, to tubercle and staphylococci varies between ·8 and 1·2, and in the charts which I will show you I have adopted these limits as the limits of the opsonic index in health to these streptococci, as to the best of my knowledge no data exist as to the average index in health to any of the organisms of the streptococci group.

Chart 2 shows the opsonic indices of members of the asylum staff to one of the streptococci isolated from a case of confusional mania. The sera of Cases A and B both agglutinated the red blood-corpuscles of healthy persons, which reaction,

CHART 2.



Opsonic indices in control cases.

as stated in an earlier lecture, is presumptive evidence in favour of some form of coccal toxæmia, although both were apparently in perfect health. The serum in Case C did not agglutinate the red blood-corpuscles in healthy persons. It will be noticed that the variations in the opsonic index of these control persons are marked, much more so than in the case of tubercle, but when one comes to compare these charts with the charts of cases suffering from mania, the fluctuations in the indices of the maniacal patients are more marked than in the control persons.

Chart 3 shows the opsonic index in the case of a female adolescent suffering from acute mania of the confusional type. The patient was admitted in a state of wild delirious excitement, and a culture made from the fæces gave a rich growth of streptococci, one colony of which the patient's serum aggluti-

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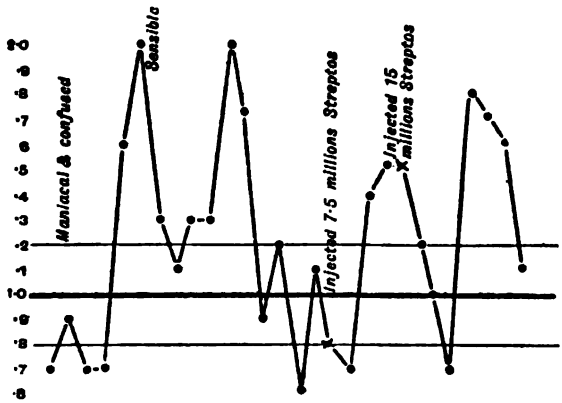
nated in dilutions up to 1 in 50. This organism was used in estimating the opsonic power of the patient's serum.

For the first four days the patient was maniacal and delirious, and the index was low. On the fifth day the index rose to 1·6, and on the sixth day to 2. On that—the sixth—day the patient became conscious of her surroundings. Two days later the index had fallen to normal, and this was again followed by a marked rise or positive phase and a subsequent fall. During the whole of this period the patient was sensible, quiet, sleeping well, and progressing favourably. On the seventeenth day I injected seven and a half millions of dead streptococci, killed by heat. The following day the index fell to ·7, and the

CHART 3.



Opsonic index. Acute mania (confusional).

patient was slightly dull and apprehensive. This was followed by a marked positive phase which lasted for three days, during which the patient was in good mental health. I then injected fifteen million dead streptococci, and this dose was followed by a prolonged negative phase, lasting for three days, during which the patient was dull and confused. This was succeeded by a marked positive phase, associated with mental clearness. The patient made an excellent recovery without suffering from any relapses, which are extremely common in adolescent cases, but whether in spite of, or because of, the treatment, it is impossible to say.

Chart 4 shows the index in a very acute case of delirious

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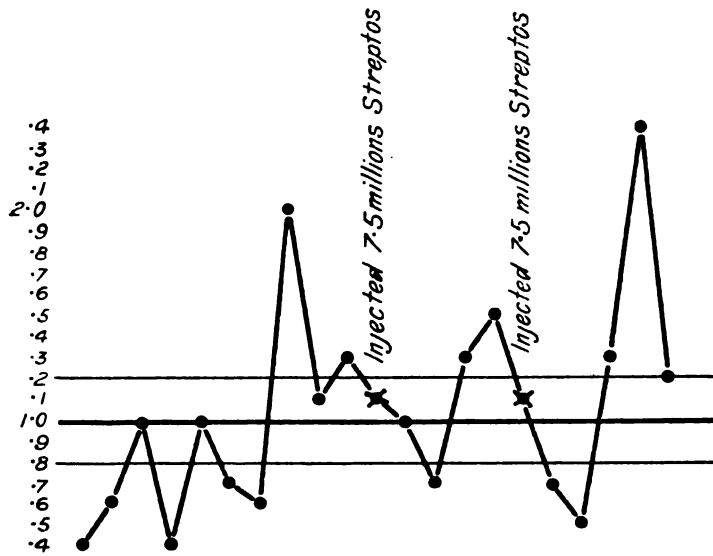
mania in a young male epileptic. For the first seven days the index was never above 1, and on two occasions as low as ·4. Then a sudden rise to 2 occurred, with some mental improvement. On the eleventh day I injected seven and a half million streptococci, and this injection was followed by a fall or negative phase, which lasted for two days, and this was succeeded by a positive phase lasting for two days. On the sixteenth day another injection of seven and a half million dead streptococci was given, and was followed by a marked fall or negative phase with exacerbation of the mental symptoms, and this

CHART 4.



Opsonic index; mania (confusional).

was succeeded by a marked rise or positive phase reaching 2·4, accompanied by decided mental improvement.

Chart 5 shows the opsonic index in a case of chronic mania of the confusional type, occurring in an adult woman who had been ill for more than two years. The organism used in this case was the streptococcus obtained from the blood of the case of acute confusional mania. It will be noticed that the positive and negative phases follow one another with great regularity, and whenever the index fell below normal a marked exacerbation occurred in the mental symptoms. Such a chart, interpreted according to our present knowledge of the opsonic index,

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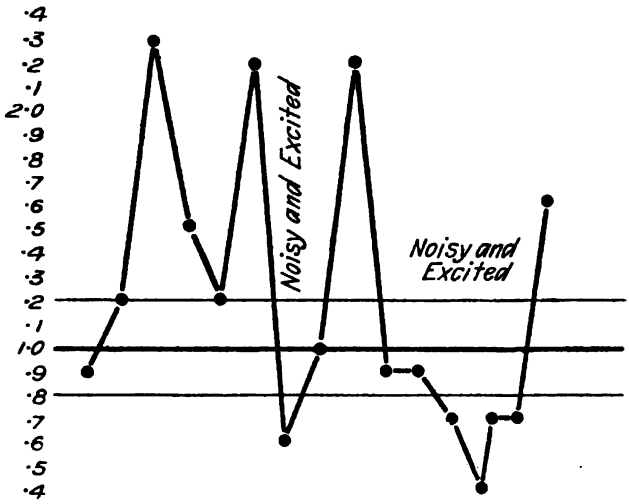
would read as follows: The chart commences with a positive phase, succeeded by a mild auto-intoxication, which stimulated another positive phase. Then follows a more marked auto-intoxication, producing a decided negative phase accompanied by excitement and noise. This is again succeeded by a positive phase with comparative mental improvement. Lastly, a still more marked auto-intoxication, producing a negative phase lasting for four days, and again a reaction of the body to the toxines represented by a positive phase.

It will have been noticed in all the charts which I have

CHART 5.



Opsonic index. Chronic mania (confusional).

shown that the positive phases are extremely short, whether they occur as the result of auto-intoxication or as the result of the injection of dead bacteria.

Chart 6 shows the opsonic index throughout an attack or manic-depressive insanity. The patient, a woman, æt. 55, suffered from repeated attacks every three or four months. Each attack was short, rarely lasting for more than two of three weeks. The index throughout two separate attacks was observed and was practically identical on both occasions. On the first day the mental symptoms were those of depression with an index of ·7, then follows a marked rise to 2 followed

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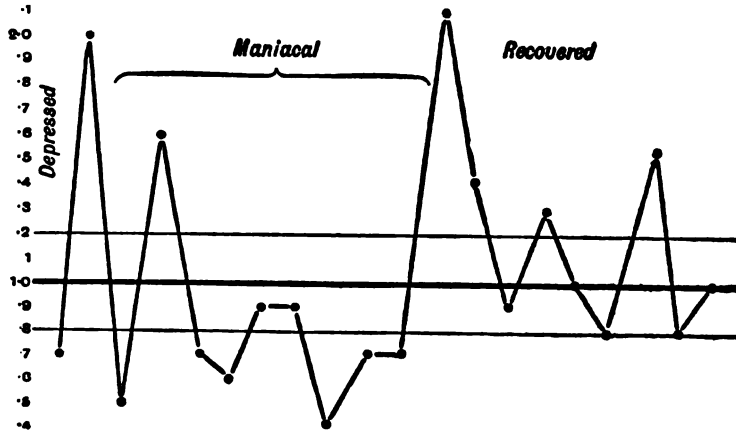
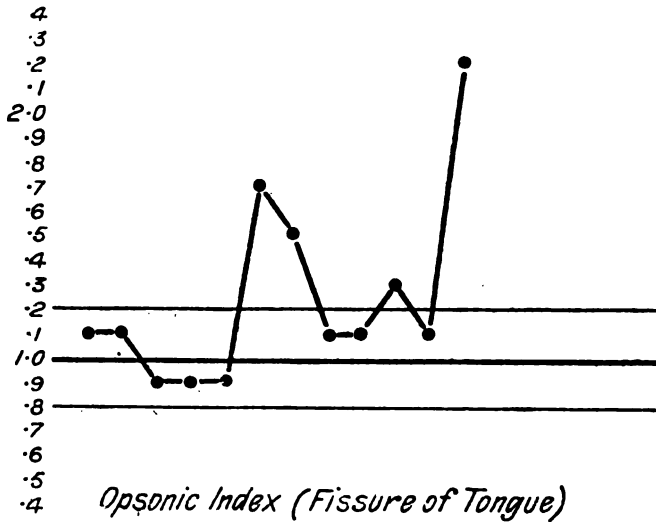
by a fall to ·5. The patient became maniacal on that, the third day of her illness, and with the exception of a rise of the

CHART 6.



Opsonic index. Mania (manic-depressive).

CHART 7.



index to 1·6 on the fourth day the index was low for eight days, during which the maniacal symptoms were most acute. This period was followed by a sudden rise to 2 with marked

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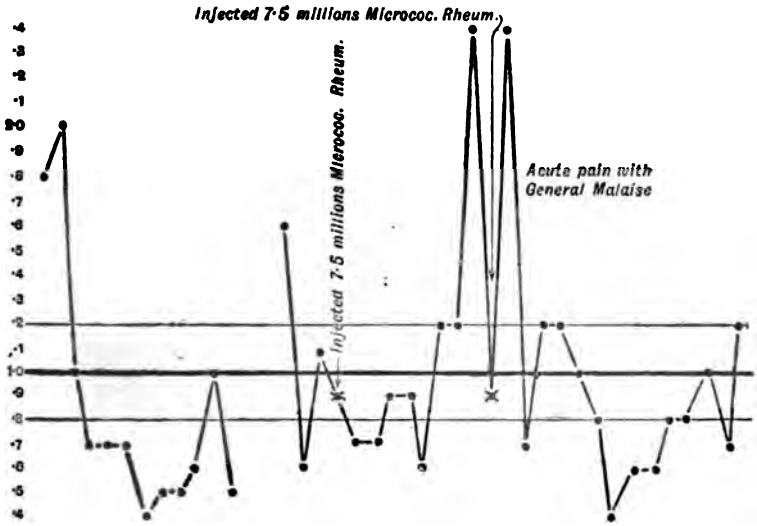
mental improvement and a subsequent index which closely approached the normal line associated with a rapid convalescence and recovery. This chart reads as follows: Auto-intoxication with a negative phase and a subsequent positive phase. A further auto-intoxication with an abortive attempt at a positive reaction followed by a long negative phase lasting seven days. A mastering of the toxines shown by the return of the positive phase with a subsequent persistence of high opsonic power associated with recovery.

Chart 7: As an interesting comparison I show the opsonic index in the control case suffering from fissure of the

CHART 8.



Opsonic index. Rheumatic arthritis.

tongue. The subject, a member of the asylum staff, volunteered to act as a control in some observations which were being made on the tuberculo-opsonic index, and at the same time the opsonic power of the blood serum was tested to one of the streptococci isolated from a case of confusional mania. The leucocyte chart, which was shown during the previous lecture, indicated that there was some source of toxæmia unknown to us, and we subsequently discovered that the lesion was a fissure of the tongue. It will be noticed that the index in this control upon two occasions rose much above the

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limits of health. The subject was apparently in excellent health, but the blood serum agglutinated the red blood-corpuscles of a healthy person.

Chart 8 is also an interesting comparison with those of maniacal patients as being the index of a sane person suffering from chronic rheumatic arthritis due to the *Micrococcus rheumaticus*, who was also injected with vaccines of the organism. The chart starts with a marked positive phase succeeded by a prolonged negative one, during which the patient suffered from nausea, intestinal disorder, and acute pain and swelling in the joints. The chart restarts with a positive phase, and on the fourth day an injection of seven and a half millions of dead *Micrococcus rheumaticus* was given. This was followed by a decided negative phase during which the patient suffered from a rheumatic attack, and this was followed by a positive phase with a return to comparative comfort. Next day another injection of seven and a half millions of *Micrococcus rheumaticus* was given, which was followed by first a rise and then a prolonged fall of the index, and again the patient suffered from malaise and rheumatism.

When one compares such a chart made in the case of a person suffering from a disease which is almost certainly bacterial in origin with those made in the subjects of mania, there is a very marked similarity between them, both in the extreme variations of the index and the association of the rheumatic and maniacal symptoms with the periods of the negative phases.

Summary of Lecture III.

As the result of bacterial observations on the blood of fifteen patients suffering from mania, a streptococcus was isolated from the blood of one case of confusional mania. The blood serum of this patient agglutinated the organism in a dilution of 1 in 100, while the serum of few control persons gave agglutination. The blood of the remaining fourteen cases of mania was sterile. It may be surmised, therefore, that organisms are not frequently present in the blood of maniacal patients.

As the result of bacterial observations upon the urine of twenty patients suffering from mania, it was noted that the

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urine of these cases when centrifuged and examined microscopically presented a large number of organisms, chiefly cocci. The urine of five control males when centrifuged and examined microscopically presented very few organisms. Cultures made from the centrifuged urine of the maniacal patients presented comparatively few colonies of organismal growth considering the number of organisms seen microscopically. On the other hand, the urine of the five control males when inoculated on agar plates and incubated for twenty-four hours at 37° C. showed a large number of organismal colonies. It is inferred from this that that the organisms in the urine of the maniacal patients were largely dead, and had been probably excreted through the kidneys, while the organisms in the urines of the five control males were living, and had probably been washed out of the urethra. The excretion of organisms in the urine of maniacal patients may be explained from the fact that the small intestines of these patients when examined *post-mortem* present evidences of atrophic catarrh, which would favour phagocytic action by the leucocytes. Two streptococcal organisms were isolated from the urines of the maniacal patients. These streptococci were agglutinated by the blood serum of the patients yielding the organisms, while the blood sera of control persons gave no agglutination.

A bacterial examination of the fæces in twenty-seven patients suffering from mania demonstrated the fact that in 59 *per cent.* of these cases streptococci were very numerous, so numerous that in two instances no *Bacillus coli* were present. Houston, in examining the bacteriology of the fæces in healthy persons, found an excess of streptococci in one case out of twenty examined.

Six streptococci, which were agglutinated by the blood serum of the patients yielding the organisms but not by the sera of control persons, were isolated from the fæces of the twenty-seven maniacal patients examined.

As the result of animal inoculations with these various streptococci isolated from the blood, urine and fæces of maniacal patients, it was found that these organisms were not pus producers, which separates them from the pyogenic streptococci and allies them to the *Micrococcus rheumaticus.*

Attempts to produce anti-serums to these organisms by inoculating two goats and a sheep failed.

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Attempts were made to immunise the patients by injections of vaccines made from these organisms. It was found that large doses produced an exacerbation of the mental symptoms. Several patients were treated for periods of six weeks with weekly injections, but when at the end of that period their blood serum was examined no immune body could be demonstrated *in vitro*.

The opsonic indices of several maniacal patients when tested against some of the streptococci above mentioned are very suggestive of a bacterial toxæmia, particularly the negative phase which follows the injection of vaccines made from these streptococcal organisms.

As the result of these observations, I believe that the diseases known as mania are conditions of brain poisoning, the poison or toxine in every case being a bacterial one. The bacteria causing these toxæmias are probably streptococci, and the point of attack is almost certainly the intestinal tract,

My explanation of the disease process is as follows: Owing to some lowering of the bacterial defences, certain strains of cocci become unduly increased in the intestinal tract. These cocci do not actually enter the blood-stream, but they form toxines in the intestine which are absorbed by the blood-vessels and lymphatics in such quantities as to escape destruction in the liver and lymphatic glands, and they thus pass into the general circulation. These toxines have a selective affinity for the most highly-developed nerve structures of the brain to which they are carried by the blood-stream. When the toxine molecules are present in the blood-stream in sufficient quantity to produce an acute brain intoxication, then an acute attack of mania is the outward result. When the poisoning is more gradual there is a gradual deterioration of the brain-tissues, showing itself in eccentricities and changed character, which may lead finally to a chronic delusional state. The presence of toxine molecules, however, in the blood-stream inevitably leads to the formation of antitoxine. The toxine molecules stimulate the cells of the body to throw out antitoxine molecules, which, by combining with the toxine molecules, render them inert. When a maniacal patient makes an apparent recovery the antitoxine molecules have for the time being neutralised the toxine molecules, and so we have a cessation of the symptoms. On the other hand, a lowering of the

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general bodily health or a failure on the part of the cells to form a sufficient number of antitoxine molecules immediately allows of the toxine molecules again to go free; further poisoning takes place, and another attack of mania is the result. The cause of the whole process, the streptococci in the intestinal tract, remain a source of danger, as they are unaffected by the formation of antitoxines which cannot reach them in the intestine. This is not a mere hypothesis, because on examining the bacterial flora of the intestine in the cases of two patients who had recovered from confusional mania, I still found streptococci in almost as great numbers as when the patients were acutely maniacal.

It has been urged as an argument against the bacterial origin of mania, that such a disease as pneumonia will sometimes cause a condition of delirious mania and sometimes arrest an attack of mania. This is perfectly true, but one must remember that pneumonias are not always due to the action of one organism. The only case of pneumonia causing mania which I have been able to observe died, and *post mortem* a pure culture of a streptococcus was isolated from the pneumonic patches in the lung. This organism was not the pneumoccccus, but a short streptococcus closely allied to the group which I have isolated from cases of mania. It was not fatal to rabbits by intra-venous, intra-peritoneal or intra-pulmonary injection. A small quantity of the blood serum, obtained from the patient the day prior to death, rapidly agglutinated this organism in dilutions up to 1 in 100. The intestinal tract in this patient presented the appearances of chronic catarrh similar to those observed in cases of uncomplicated mania dying from exhaustion. This was evidently a case in which the pneumonia was the last straw in precipitating the maniacal attack. The pneumonia and mania were, in short, only the terminal stages of a prolonged intestinal toxæmia.

The cases of pneumonia which promote recovery in states of mania are always, in my experience, associated with high fever and hyperleucocytosis, and were probably caused by the pneumococcus or some allied pyogenic organism.

In spite of all that has been said to the contrary, acute inflammatory conditions undoubtedly cut short attacks of mania, but these inflammatory conditions are always associated with high temperature and hyperleucocytosis. The high temperature

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alone has some bactericidal action of which we are at present only dimly conscious. Aurebach noted that a temperature of 108° F. rendered alkaline culture media bactericidal, and he argues that in acute infections the pyrexia, although it diminishes the alkalinity of the blood, at the same time may be beneficial in that it also increases its bactericidal power. A genuine inflammatory or infective leucocytosis, plus fever, is a much more potent defensive agent than a leucocytosis excited artificially with which there is no fever. I have undoubtedly cut short attacks of mania by injections of vaccines made from virulent cultures of *Streptococcus pyogenes*, turpentine and similar agents, which promote recovery by the hyperleucocytosis which they induce, but such injections often fail, and they fail, I believe, because one does not produce the temperature and leucocyte reaction of a true inflammatory process.

Amentia and Dementia: a Clinico-Pathological Study.

By JOSEPH SHAW BOLTON, M.D., M.R.C.P., Fellow of University College, London; Senior Assistant Medical Officer, Lancaster County Asylum, Rainhill.

PART III.—DEMENTIA (*continued*).

PAGE

[*Introduction* . . . . . LII. 221]

[*The general pathology of mental disease and the functional regions of the cerebrum* . . . . . LII. 224]

[*Mental confusion and dementia* . . . . . LII. 428]

[*Varieties of dementia* . . . . . LII. 711]

[*Group I—Primarily neuronic dementia* . . . . . LII. 716]

[(a) *Senile or "worn out" dementia* . . . . . LII. 717]

[(b) *Presenile or "climacteric" dementia* . . . . LIII. 84]

[(c) *Mature or "adult" dementia* . . . . . LIII. 107]

[(d) *Premature dementia (dementia præcox)* . . . . LIII. 423]

[*Group II—Progressive and secondary dementia* . . . . . LIV. 1]

[(a) *Progressive senile dementia* . . . . . LIV. 10]

[(b) *Dementia paralytica* . . . . . LIV. 22]

Group III—Special varieties of dementia . . . . . LIV. 265

(a) *Dementia following sense deprivation* . . . . LIV. 269

[(b) *Dementia following epilepsy* . . . . .]

[(c) *Dementia following cerebral lesions* . . . . .]

[*General review and summary* . . . . .]

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Special Varieties of Dementia.

Introduction.

In the case of the two great groups of "Primarily Neuronic Dementia" and "Progressive and Secondary Dementia," which have been described, dissolution or involution of the centre of higher association results primarily in consequence of a more or less markedly deficient durability of the higher cortical neurones. In the first of these groups, whilst the result may follow a mere inability to survive on the part of these neurones, the onset of dissolution is usually incited, or at any rate precipitated, by one or more of the numerous extra-encephalic causes which have already been discussed. In the second, the result is achieved under the additional influence of certain intra-encephalic but extra-neuronic agencies, namely, degeneration of the cerebral arteries, excessive reparative reaction on the part of the non-neuronic elements of the encephalon, or a combination of both these factors.

The group at present under consideration differs from both these in the fact that it includes, not a special pathological type, but the residue of the series of cases of dementia which is under description. This method of treatment has been adopted, not owing to any real heterogeneity on the part of the cases included in the group, but as a matter of convenience in consequence of their relative rarity.

The group, which includes thirty-eight cases only, contains three well-defined classes, which, were they considered solely from the aspect of scientific precision, might equally have been described as homologues of the groups of "Primarily Neuronic Dementia" and "Progressive and Secondary Dementia."

These classes are as follows:

	M.	F.	T.
(1) Dementia following Sense Deprivation	6	4	10
(2) Dementia following Epilepsy - -	12	8	20
(3) Dementia following Cerebral Lesions	3	5	8
	21	17	38

Whilst few preliminary remarks are required in the case of the second and third of these classes, a more lengthy intro-

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ductory reference to that of "Dementia following Sense-Deprivation" is necessary.

Amentia following sense-deprivation or idiocy of deprivation is a commonly recognised type of mental disease, and is more or less fully described in the various works on psychiatry. It includes such cases of idiocy as have ensued in consequence of, or in association with, the congenital absence of one or more of the important avenues of sensation.

The writer has, however, met with but one author, namely Clouston, who specifically refers to the existence of what he terms "Insanity from Deprivation of the Senses." The description given by this author, being sufficiently brief for reproduction here, is as follows: "I saw a gentleman, L. M. B—, some years ago, who became melancholic and suicidal coincidently with his loss of sight from cataract, and who improved greatly after the operation for removing it was partially successful, so that he could again see even in a dim way the outer world. It is very common indeed for those who are deaf to become quiet, depressed and irritable. It is also common for such persons to become subject to hallucinations of hearing, and so insane as to need to be sent to asylums. I have now at the Royal Asylum four or five such cases. It seems as if they were so cut off from social intercourse and the outer world by their deafness that their subjective experiences became objective realities to them. In the case of all men the senses correct many 'delusions, and the impressions from the senses, streaming in on the mental areas from the outer world, are the best preservatives of mental health.'" (*Mental Diseases*, 6th ed., pp. 666–7).

It is, of course, usual to find sense-deprivation included amongst the numerous and heterogenous "causes" of insanity. For example, the schedule of "causes and associated factors of insanity," authorised by the Medico-Psychological Association and adopted by the Commissioners in Lunacy, contains a heading, "*Deprivation of Special Sense*—smell and taste (either or both), hearing, sight." It would, however, be difficult to decide under what heading of the authorised schedule of "Forms of Insanity" it would be possible to insert "Dementia following Sense-Deprivation"; and the writer has hitherto been unable to discover such a form of mental disease in any of the publications on the subject of psychiatry which have come under his

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notice. He is, however, convinced that the dementia which develops in certain cases of sense-deprivation is worthy of recognition as a distinct type of mental disease, and he purposes to produce his reasons for this opinion during the course of the present section.

Of the 728 cases of mental disease under description, he has classified ten under the heading of "Dementia following Sense-Deprivation." In the majority of these cases the patient appears to have arrived at the adult period of life before deprivation of one or more of the special senses has occurred. In others the disability dates from an earlier period or from birth. In all the cases, however, mental symptoms have developed and have been followed by a greater or lesser amount of dementia.

From the aspect of dementia alone, as more or less dissolution or involution of the centre of higher association has occurred in the absence of intra-encephalic but extra-neuronic causative factors, the cases under consideration might be included under the group of "Primarily Neuronic Dementia." This course is, however, impossible, as the cerebra of these cases are "maimed" in the neuronic sense, since loss of one or more of the special senses has resulted in the development of extensive atrophic or involutive states of the respective projection spheres, and in gross functional (if not structural) modifications of the lower associational systems of the cerebrum. Further, the permanent, if non-progressive, cause, or the special type of permanent stress induced by this cerebral disability, differs altogether from the numerous and temporary, inciting or precipitating, causes which evolve the various types of "Primarily Neuronic Dementia," although, as in dementia of any kind, the primary cause, deficient durability of the higher neurones of the cortex, is common to both.

The writer, therefore, considers himself justified in describing "Dementia following Sense-Deprivation" under a special heading.

In the case of "Dementia following Epilepsy," whilst equally cogent reasons exist for the formation of a special class, these are of a very different nature.

In the section on epileptic insanity (*Journ. Ment. Sci.*, January, 1906, pp. 5–7), the writer has produced evidence that epilepsy most frequently occurs in association with mental

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disease in those types of the latter in which cerebral degeneracy is most marked. He considers, therefore, that both epilepsy and amentia are degeneracies, and that the general effect of co-existing epilepsy is harmful in all types of the latter. "The epileptic idiot or imbecile is more spiteful and degraded, the epileptic high-grade ament is more vicious and impulsive, the epileptic maniac is more treacherous and dangerous, and the epileptic dement becomes progressively more demented, than occurs in the cases of the corresponding types of mental disease when this complicating factor is absent" (*loc. cit.*, p. 7).

He is thus of the opinion that dementia is not a consequence of epilepsy *per se*, but that it occurs in such epileptics as possess higher cortical neurones of deficient durability. In cases, therefore, which are developing or have developed some grade of dementia, this is aggravated by epilepsy. Further, the amount of neuronic dissolution and dementia is increased, as is often also the frequency of the fits, by the extra-neuronic reparative reaction, which is a frequent feature of cases of epileptic dementia. In such cases certain of the morbid appearances, especially the thickened and fibrous pia-arachnoid, the wiry cortical arteries and the pial adhesions, often much resemble those present in dementia paralytica. Both the grade of the dementia and the frequency of the fits are probably also in many cases increased by the development of the small multiple thromboses, which are described by Turner as common and often permanent.

Cases of "Dementia following Epilepsy" may, therefore, justifiably be provisionally considered to occupy a special group, which pathologically is midway in position between the groups of "Primarily Neuronic Dementia" and "Progressive and Secondary Dementia."

The third class of "special" dementia which is under consideration requires no justification for its position or existence, consisting, as it does, of cases which present various types of focal gross lesion of the cerebrum. In certain of the cases focal lesions occur in conjunction with dissolution of the centre of higher association of any of the types which have been described. Other cases included in the class, though fairly common in asylums, do not necessarily fall into the domain of psychiatry. Focal maiming of the cerebrum, even when limited to the post-Rolandic and infra-Sylvian parts of the brain, may

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so affect the psychic content and so influence the processes of lower association as to make the patient, for practical clinical purposes, a gross dement, even although his centre of higher association, from the neuronic aspect, is intact.

This truth is, in fact, so clearly recognised by neurologists that an influential school exists which discounts the importance of the prefrontal centre of higher association, and holds that severer grades of mental impairment result from lesions of the posterior than of the anterior portions of the cerebral hemispheres.

Special Varieties of Dementia.

(A) *Dementia following Sense-Deprivation.*

The present group contains ten cases of congenital or acquired deprivation of one or both of the senses of sight and hearing, in which a greater or lesser degree of cerebral dissolution and dementia has developed.

The cases are of various types, and on the whole, in spite of their small number, form a fairly satisfactory series. The rarity of the type under description is indicated by the fact that the present group forms the small proportions of 2·2 *per cent.* of the cases of dementia and 1·4 *per cent.* of the total series of cases of amentia and dementia. The writer, however, hopes to produce, during the following description, satisfactory reasons for classing the cases of dementia following sense-deprivation under a special heading, instead of including them amongst the cases of "Primarily Neuronic Dementia."

As will be briefly indicated, the senses of sight and hearing, especially the latter in ordinary uneducated individuals, are so necessary to, and play such an important part in both the evolution and the conservation of the normal functions of the cerebrum, that deprivation of one or both of these senses in congenital or early cases grossly modifies, and in adult cases necessitates an entire readjustment of, the associational processes which constitute the physical basis of psychic function. On the other hand, in modern civilised races at any rate, the senses of taste and smell play but a small part in the evolution and performance of the psychic functions. It is doubtful, therefore, if congenital or early deprivation of one or both of these senses

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would in any important measure influence the psychic functions; and it is probable that such deprivation, when occurring during adult life, would be unable, *per se*, to produce either insanity or dementia even in predisposed individuals, although it might take part in the determination of the special symptomatology exhibited by the sufferers when they became insane. There is no reason to suppose that partial and even total abolition of the tactile sense has any real influence on the psychic functions, except in so far as it may interfere with the proper execution of voluntary movements and thereby induce a certain amount of physical "stress." The present group, therefore, both in fact and in the intention of the writer, contains cases which exhibit deprivation of one or both of the senses of sight and hearing.

The writer also excludes such cases as suffer from the various physical disabilities which interfere with the earning of a livelihood, *e.g.*, the loss or maiming of limbs and the development of chronic diseases of the bones and joints. Such disabilities produce various grades of physical "stress"; and when occurring in high-grade aments they may thereby induce mental symptoms, and when in patients who possess cortical neurones of deficient durability they may induce the onset of dementia. In the first case, a potential lunatic becomes an actual one; and in the second, an individual with a deficiently durable cerebrum becomes a case of "Primarily Neuronic Dementia," though naturally both conditions and results may occur in the same person.

Such disabilities do not, however, directly modify or reduce the performance of the psychic functions. Normal individuals often develop really surprising capabilities in the employment of maimed limbs, and at times the physical disability appears to act as a stimulus to the cerebrum, and to bring into activity mental powers which would otherwise remain latent. On the other hand, when these disabilities occur in high-grade aments, or in individuals with cerebra of deficient durability, they add such persons to the population of the workhouses or asylums.

In the class of cases now under consideration the conditions are different. On the one hand, the patient suffers a permanent loss of one or both of the important avenues of special sensation, and on the other, all kinds and degrees of structural and functional impairment develop in the cerebrum in consequence

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of the deprivation. Not only does secondary atrophy of the particular afferent fibres to the cerebrum result, but the complex associational relations between the special projection area or areas and the rest of the cerebrum are seriously affected. The special sensory-memorial images dependent on the lost sense or senses pass more and more permanently into the sphere of the subconscious. The physical bases of even the most elementary existing (*i.e.*, already experienced) percepts require readjustment to the altered conditions. Finally, the mechanism for the development of new and the correction and continuation of existing (*i.e.*, already experienced) percepts, which normally involves the majority of, if not all, the projection or sensory areas of the cerebrum, together with their related memorial spheres, becomes imperfect or "maimed."

These results follow acquired blindness or deafness, but similar and more severe developmental defects are existent when either of these disabilities is congenital or is acquired in early life. The psychic functions, in fact, are either very imperfectly evolved or are performed, as will be remarked later, in an entirely abnormal manner. In such cases deafness is a more serious deprivation than blindness, as for the evolution of the functional activity of the cerebrum an entirely new development of associational spheres to replace those normally employed for auditory and spoken language has to be acquired. In the case of congenital or early-acquired blindness, on the other hand, the complex sphere of language, with all its psychic components, can be employed in a perfectly normal manner, and almost exactly as it is brought into use in the case of persons who neither read nor write.

Hence cases of congenital or early-acquired deafness are more liable to imperfect mental development, with which is associated mutism, than are cases of congenital or early-acquired blindness.

Further, from the dissolutive aspect, both in the cases in which the sense-deprivation is congenital or acquired early in life, and in those in which it is acquired after adult life has been reached, cerebral involution is *a priori* more likely to occur in the case of the deaf than in that of the blind. This statement is supported by the cases which are cited later, for, of the ten, three are deaf and dumb, two are deaf, four are almost or totally deaf and blind, and only one, a well-marked

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high-grade ament who had been certified for thirty-seven years, is blind.

The writer has laid much, and feels that he cannot lay too great, stress on the disablement or maiming of the complex associational processes which exists in the cerebra of the blind and especially of the deaf.

The whole of the higher intellectual processes are dependent on and develop *pari passu* with the evolution of language. Till of recent years the majority of, and even now many, individuals depend on the sense of hearing for the acquisition of the greater portion of their (human) psychic content, though persons who read and write perhaps gain an equal amount by means of the sense of sight, and the more intellectual members of the race probably acquire the greater part by means of the latter sense.

Language, therefore, as the instrument of thought, or even as its compeer, for the higher refinements of thought depend so entirely on, and draw so much of their inspiration from, the possession of a highly elaborate vocabulary, is of fundamental importance for the performance of the higher, as of the less complex, psychic functions.

Language, according to the type of sensorial or sensori-motor avenues through which it is acquired and stored, and by means of which it is employed, possesses four chief physical bases in the cerebral cortex, namely, the auditory, visual, cheiro-graphic and articulatory. For the sake of simplicity no attempt is made to separate the kinæsthetic from the purely motor divisions of the latter two, though, in fact, these are probably differently located. It might, therefore, be supposed that loss of any one of the four afferent avenues to these would not, owing to the commissural connections between the several spheres, be of serious import, apart from the non-reception of sensations through the absent channel. That such a view is incorrect can, however, readily be demonstrated. The spheres referred to, with their commissural connections and their afferent and efferent projection systems, merely form a convenient mechanism for the mechanical acquisition and re-production of language, which would be meaningless unless during the employment of its mechanism there occurred an active associational participation on the part of practically the whole mantle of the cerebrum. The writer would here remark that he does not wish to be understood to predicate the exist-

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ence of special "concept" and "percept" *centres*, and he purposes shortly to make his meaning clearer.

Words may be described, without serious error, as mental algebraic symbols which, without interpretation into their conceptive, their perceptive, and finally their sensory-memorial equivalents, are meaningless. Language, in other words, may be compared to the symbolic system employed by mathematicians, and the ever-varying sensory-memorial complexes which words symbolise may be likened to the numerals of arithmetic.

A word, *per se*, represents merely an auditory or visual sensation, or a cheiro-graphic or articulatory kinæsthetic impression, unless it is employed as a symbol on which to integrate the percept or concept which it signifies, and for this the cerebral mechanisms or associational systems connecting the different projection and sensory-memorial regions of the cortex are needed.

Further, both these developed percepts and concepts, and also the associational processes involved in their formation, differ not fundamentally but in detail on every occasion on which they are evolved or employed.

Words may arise into consciousness through any one of the four language-spheres. When, however, they are voluntarily and silently reproduced, *i.e.*, thought of, words are invariably awakened through the articulatory word-centre under normal conditions. They cannot be voluntarily repeated in thought by means of the cheiro-graphic centre if the hand is not actually moved, unless such hand movements are replaced by slight movements of the head, or even of the lower jaw or the eyes, through the agency of their respective motor-spheres. If words should spontaneously arise in the visual or the auditory word-centre, the condition is so abnormal as to constitute a hallucination, which the subject may or may not be able to distinguish from a true visual or auditory sensation.

However they may arise into consciousness, words naturally possess very different symbolic values. Articles, pronouns, prepositions, conjunctions, interjections, and the simpler adjectives, adverbs and verbs, when thought of alone (articulatory word-centre), as a rule arouse little beyond their respective visual or auditory word-images, which, in themselves, are meaningless. Adjectives, adverbs, verbs, and abstract nouns, when thought of alone (articulatory word-centre), arouse first their respective

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visual or auditory word-images. These, however, are meaningless until by complex associational processes they are defined and illustrated through the sensory-memorial spheres attached to the various sensory or projection areas. Common or proper nouns, when thought of alone (articulatory word-centre), may first arouse their visual or auditory word-images, but they frequently at once awaken a whole series of associational processes, and thereby determine the reproduction of sensory-memorial images attached to one or more of the several sensory or projection areas. It may be remarked that any such series of associational processes differs in detail on each occasion on which it is evolved. For example, the mental processes induced by the word "cat," whether this be thought of (articulatory sphere) or be heard or seen (auditory or visual sphere), are different, not fundamentally but in detail, on each occasion on which they are aroused. This ever-varying perceptive content is consequent on the revivification of, and the modification of the complex relations of, the numerous existing sensory-memorial images of which the word is symbolic, which are constantly taking place under the influence of even apparently unrelated afferent impressions.

Hence the auditory, visual, cheiro-graphic, and articulatory word-centres merely signify the cortical regions in which lie the physical bases of mental algebraic symbols. These, unless they serve as inciting agents from which spread, in different directions throughout the cerebrum, complex impulses of association, signify no more than unmeaning sounds, shapes, and musculo-kinæsthetic sensations.

Language is produced by the suitable co-ordination of the verbal content of the auditory and articulatory word-centres. It is originally acquired by imitation under the influence of auditory sensations, and in educated persons language is more highly evolved owing to education of the visual and cheirographic spheres. When once it has been acquired, however, language (*i.e.*, functional activity of the several word-centres with their commissural systems) is not necessarily employed as the instrument of thought, although it has been primarily evolved for this purpose.

Examples are common in which the mechanism of language is employed in a purely mechanical manner. Imbeciles can at times learn by rote long paragraphs, of the meaning of which

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they are ignorant. Children learn a large portion of their lessons in this way. Adults, even, may learn the Lord's Prayer backwards, or sentences in an unknown foreign language. Direct evidence of the purely mechanical nature of these performances is often afforded by the inability of the subjects to complete their feat, if they are stopped during its course, unless they start again at the commencement. Occasionally quite remarkable examples of mechanical memory and of mechanical employment of the word-centres are met with. From the former aspect may be mentioned the reproduction of long verbal or musical compositions after a single reading or hearing, and from the latter the performances of "calculating boys."

Examples of this mode of employment of the mechanism of language may be readily drawn from every-day life. Many word-complexes, which are frequently repeated, *e.g.*, daily prayers, are often gone through in a purely mechanical manner, whilst the individual reproducing them is perhaps thinking of something else. Again, it is appreciated by few that language, as normally employed, is very largely a purely reflex, or, at any rate, automatic function, and that the significance of what is spoken is but feebly appreciated by the speaker. In the majority of persons the word-vocabulary which is in common use is very limited, and the phrase-vocabulary is both extremely limited, remarkably stereotyped, and in many instances quite automatically employed. In educated, and particularly in "well brought up" persons, on the other hand, the word and phrase vocabularies, though equally stereotyped, are much more extensive in range.

The voluntary employment of the language-mechanism is attended by greater executive difficulties than is the reflexly-induced and automatically-performed mode which has just been indicated, and it is at times involutarily incited, to the detriment of the performer, by emotional disturbances. For example, nervous persons, when in the presence of their real or imaginary, social or intellectual, superiors, speak haltingly and from a limited vocabulary owing to the attempt to converse, not automatically, but to order. On the other hand, in the voluntary employment of written or spoken language for the evolution and reproduction of the highest psychic products, *e.g.*, the production of an abstruse thesis, the language-mechanism is

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made use of solely for the purpose for which it has been evolved, namely, as the instrument, and the important assistant, of thought.

The writer has endeavoured by the above observations to indicate that language, though so commonly employed in a largely automatic manner and with but a feeble appreciation of its signification, is nevertheless in essence a symbolic mechanism for the integration of sensory-memorial images, and analogous, as an instrument, to the symbolic system employed by mathematicians.

By its use it is the servant, and the necessary servant, of thought: by its abuse it becomes the compeer, or even the supplanter, of thought.

It has been necessary to deal at some length with the subject of language in order to make clear on the one hand how necessary for the proper performance of the psychic functions is a symbolic mechanism for the integration of sensory-memorial images; and on the other how the separate symbols of this mechanism are of psychic value solely in so far as their reproduction serves to evolve a series of associational processes, which arouse into the sphere of consciousness the varying and heterogeneous collection of sensory-memorial images, of which they may be described as the algebraic representations.

The writer will now proceed to apply these observations to the subject under consideration, namely, the gross modifications of cerebral function which are the necessary consequences of congenital or acquired deprivation of the senses of hearing and sight.

In cases of early or congenital deafness, the complex mechanism for the reception, storage, and reproduction of language, or the symbolic representation of the results of sensorial excitation and of psychic association, is incapable of evolution unless the patients are laboriously educated through other avenues of sensation. It is hardly necessary to add that mutism is a necessary consequence of early or congenital deafness, though a considerable development of lip language can often be induced by education. Such patients, in fact, unless educated by special methods, would necessarily possess mental functions relatively little removed from those of the lower primates.

The writer therefore feels justified in laying stress on the

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gross modifications of general cerebral association—with the markedly deficient mental content that is their consequence—which are necessarily existent in the congenitally or early deaf, as a frequent cause of dissolution, or involution from disuse, of the centre of higher association in such subjects. On the other hand, the congenitally or early blind can obtain a large and important part of their mental content by means of the sense of hearing, just as do ordinary uneducated (*i.e.*, non-reading and non-writing) persons. That the former can supplement their methods for the acquisition and communication of information by means of the deaf-and-dumb alphabet, etc., and the latter by means of the tactile-motor sense, does not affect the fundamental difference between them, which is based on the fact that a highly important part of the mental content is normally (in the uneducated) acquired by means of the sense of hearing and not by that of sight.

Deprivation of sight or hearing, when occurring later in life, results, in the educated, in relatively less cerebral disability, and in probably an approximately equal amount in the case of either of these senses. In the uneducated, however, loss of hearing produces greater cerebral disability than does loss of sight.

In all these types, however, both sensory and also extensive and grave associational deprivations exist; and the cerebrum, as a machine, is maimed not only in its most stable and earliest acquired regions, namely, in one or more centres of projection or sensory areas, but also throughout its intricate, later evolved, and more important (from the psychic aspect) systems of lower association.

The onset of dissolution or involution of the centre of higher association in the prefrontal region therefore occurs, in such cases, under totally different causes and conditions from those which induce dementia of the "primarily neuronic" and "progressive and secondary" types, and the writer therefore feels justified in classing cases of dementia following sense-deprivation under a special heading.

In congenital cases the onset of involution of the centre of higher association, with the resulting dementia, whilst due to a deficient durability of the neurones which it contains, is eventually incited by the stress of prolonged sense-deprivation and the consequent abnormal modes of psychic association which result.

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In other words, the abnormally working psychic machine sooner or later breaks down.

In persons who acquire sense-deprivation later in life, the mental stress involved on the one hand in the sense-disability, and on the other in the more or less unsuccessful attempts to revive the related memories which tend to pass more and more into the permanently sub-conscious, or to replace the absence of these memories by the integration of percepts and concepts on an unusual sensory-memorial basis, often, or perhaps invariably, results in the development of irritability, or depression, or general emotional instability. In cases like that cited by Clouston, partial removal of the sense-deprivation by operation may result in a return to normal psychic life. In the case, however, of individuals who possess higher cortical neurones of deficient durability, insanity followed by dementia ensues.

In such cases the symptomatology which is presented, and the period of life at which the morbid process makes its appearance, are dependent on different factors. The symptomatology exhibited depends on the one hand on the nature of the sense-deprivation, and on the other on the psychic configuration of the particular subject. The period of life at which insanity followed by dementia occurs depends on the duration and severity of the mental stress produced by the sense-deprivation, and on the resistance presented by the higher cortical neurones. Examples of the dementia following sense-deprivation may, therefore, presumably occur which form the homologues of any of the four classes of "Primarily Neuronic Dementia," namely the premature, the mature, the presenile and the senile. That this presumption is correct is suggested by the fact that the ages, at which mental symptoms first appeared in the ten cases which are cited later, were respectively 16, 27, 28, 28, 30, 37, 42, 50, 53, and 74 years. Three of the ten cases were discharged and re-certified one or more times. The ages of certification in the present, and in seven cases the only, attack are as follows: five cases were aged between 28 and 37 years, three were aged between 50 and 54, one was aged 62, and one was aged 74. The writer does not wish these figures to be regarded as other than suggestive, owing to the fact that several of the histories are imperfect.

As will be evident during the description of the cases included in the group under consideration, the grade of dementia

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which is present is very different in the several individuals. Though the actual dementia depends primarily on a deficient durability of the higher cortical neurones, the probability that the sufferers would not necessarily have become insane in the absence of the sense-deprivation causes the type and degree of sense-disability which is present to be important exciting factors as regards the grade of dementia which is induced.

On the whole, though each case requires consideration on its merits, deafness is a more important disability than blindness, for, of the ten cases, nine are partially or totally deaf, and only five are partially or totally blind.

Three of the cases are deaf and dumb. All these exhibit definite dementia, and in two of them it is well marked.

Two of the cases are deaf. In the one, the deafness is total, there is considerable dementia, and the patient, who has been certified for twelve years and has shown symptoms for sixteen years, has gradually forgotten how to speak in an articulate manner. In the other, the deafness is marked but not total, and the patient has developed a mild degree of dementia during her year of residence.

Four of the cases are partially or totally deaf and blind. In two of these the deafness and blindness are total, there is no hyper-activity of the tactile sense, and there is well-marked dementia. In one case the deafness is total and the blindness is almost total, the disability developed relatively early in life. there is marked hyper-activity of the tactile sense, and there is very little dementia. In one case the blindness is total and the deafness is almost total, the disability developed relatively late in life, there is no hyper-activity of the tactile sense, and there is definite dementia.

The final case is totally blind and is a marked high-grade ament who has been certified for thirty-seven years (since the age of twenty-eight). She exhibits no hyper-activity of the tactile sense, she has gradually forgotten how to speak in an articulate manner, and she shows much dementia.

It is evident, therefore, that, whilst deafness markedly overshadows blindness as a causative agent of dementia, the latter disability becomes of importance if it is not replaced by hyper-activity of the tactile sense. There is no evidence that mere duration of the sense-disability has a direct influence on the grade of dementia.

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The cases included in the group under consideration will now be summarised, with especial reference to the question of symptomatology. For convenience, they will be considered under four headings.

(1) *Deaf and Dumb.*

CASE 691.—Male, æt. 31, single, engraver. Previous attack. Father insane. High-grade ament and developing dementia.

CASE 692.—Male, æt. 33, single, working jeweller. Showed symptoms for some years before admission. High grade ament. Has developed more dementia than Case 691.

CASE 693.—Male, æt. 64, single, cooper. Epileptic; previous attacks since the age of 42. Paralysis on paternal side. High-grade ament, and of less original intelligence and education than Cases 691 and 692. Is developing cerebral involution and dementia.

Remarks.—All the cases are high-grade aments. The mental symptoms exhibited are those of dementia. None of the cases show irritability, excitability or stubbornness.

(2) *Deaf.*

CASE 694.—Male, æt. 46, married, plasterer. Certified twelve years, and showed symptoms for four years previously. Mother very deaf. Is poorly educated and has largely ceased to speak in an articulate manner, under the influence of deafness and slowly progressing cerebral dissolution. Is garrulous, excitable, irritable, and quarrelsome, and exhibits a moderate grade of dementia.

CASE 695.—Female, æt. 54, widow, laundress. Certified one year. Is practically deaf. Is irritable, unstable, bad-tempered and quarrelsome. Is solitary and moody. Suffers from severe hallucinations of hearing and delusions of persecution. Has developed some, but relatively little, dementia.

(3) *Deaf and Blind.*

CASE 696.—Male, æt. 65, single, milkman. Certified eleven years. Previous attacks at the ages of 54, 53 and 50. Showed

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symptoms at the age of 16. Scarlet fever at the age of 25. *Is quite deaf and practically blind.* Is irritable, excitable, and quarrelsome. Exhibits marked hyper-activity of the tactile sense. Shows remarkably little dementia, considering his age and his severe sense-deprivation. This is probably largely due to the adult onset and the long duration of the sense-deprivation, and to the employment of the tactile sense.

CASE 697.—Male, æt. 45, single, farm labourer. Certified eight years. Is stated to have had fits from birth. *Is quite blind and quite deaf.* Is irritable and stubborn. Is probably of originally low intelligence. Has developed a well-marked grade of dementia.

CASE 698.—Female, æt. 81, married, housewife. Certified seven years, and was previously in a workhouse. *Quite blind and very deaf.* High-grade ament. Irritable, unstable, and excitable. Probably originally possessed more intelligence than Case 697 and less than Case 696. Has developed considerable dementia, but much less than Cases 697 and 699.

CASE 699.—Female, æt. 57, single, of no occupation. Certified seven years. *Quite blind and quite deaf.* High-grade ament. Is irritable, excitable, resistive, and spiteful. Speech largely unintelligible. Is probably of decidedly deficient original intelligence. Has developed much dementia. Resembles Case 697, but is more maniacal.

Remarks.—All the four cases are irritable and excitable. Cases 697 and 699, who are quite blind and quite deaf, and who are probably both of originally defective intelligence, have developed a well-marked grade of dementia. Case 698 is quite blind and very deaf, is a high-grade ament, and has developed considerable dementia, but less than Cases 697 and 699. Case 696 is quite deaf and practically blind. He has developed remarkably little dementia, and exhibits marked hyper-activity of the tactile sense, in this resembling an ordinary blind man.

(4) *Blind.*

CASE 700.—Female, æt. 65, single, of no occupation. Certified thirty-seven years. Is quite blind. High-grade ament.

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Speech, except at times, quite unintelligible. This is probably due to the combined influence of blindness, mental degeneracy, prolonged residence in an asylum, a constant habit of talking to herself, and dementia. She is irritable, excitable, resistive, and quarrelsome, and exhibits much dementia.

General remarks.—It may be pointed out that, with the exception of the three deaf-and-dumb cases, all the examples of sense-deprivation which have been referred to are irritable, excitable, and unstable. It is therefore probable, as has already been indicated, that these symptoms arise in consequence of the stress involved in the loss of a sense or senses which have already been employed, and in the more or less unsuccessful attempts of the sufferers to revive the related memories which tend to pass more and more into the permanently subconscious, or to replace the absence of these memories by the integration of percepts and concepts on an unusual sensory-memorial basis. On the other hand, in congenital or very early cases (deaf and dumb), either the mental content is extremely defective, or abnormal modes of psychic association have gradually been evolved, and consequently such symptoms of "stress" do not arise.

Illustrative examples of the group of cases under consideration will now be inserted, and as the subject appears to the writer to be of sufficient importance, he purposes to depart from the method of selection which he has hitherto adopted and to insert the whole of the ten cases which are included in the group.

These are as follows:

(1) Deaf and Dumb, Cases 691–3.

Male, æt. 31; Deaf and Dumb; High-grade Ament; certified ten months; Former Attack of a Year's Duration, two and a half years ago; Definite Dementia.

Case 691.—T. A. J—, male, single, engraver, æt. 31. Certified ten months. Was previously sent to an asylum two and a half years ago, and remained there for twelve months. Father insane. Notes taken four days after his admission.

Patient is deaf and dumb. He exhibits considerable facial asymmetry, the right side of the face being the larger. He has a dull and despondent expression, and unless notice is taken of him he shows little interest in his surroundings. When his attention is drawn to written questions he at times understands them if they are written in a simple

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manner, and also at times writes replies. He, however, understands the questions much better if they are slowly written letter by letter, in which case he appears to spell them to himself (by translation into the deaf and dumb alphabet) as they appear on the paper. He is decidedly feeble-minded, and his vocabulary is very limited. He soon gets fatigued under examination, and his attention is difficult to retain. He appears to have no desire to reply to questions in the deaf and dumb alphabet, and pays little or no attention when it is performed in his presence. On the other hand, he can be stimulated to attend to the writing of questions, and in some instances to indite replies, which are written in a slow and halting manner. These replies are fairly grammatical, but very little attention is paid to such details as capitals and stops.

The following are examples of some of the questions put to him and of his replies:

What is your name? "T— A— J—."

What work have you done? "engraver is my trade"

How much a week? "I last earned £1 . 10 . 4½"

When did you leave work? "last October 14th, 1902." (He was admitted to an asylum on the day following this date.)

Why did you leave? "I did not feel well"

Were you miserable, and if so why? "I was rather dull."

Had you any strange fancies? "What is it"

When "*ideas*" and "*thoughts*" are written in place of "fancies," he does not reply, but shakes his head.

I saw something about Satan on the papers sent with you. What was it? "I have a trouble as I am deaf and dumb as I hardly understand"

Does the word "Satan" mean anything to you? "My deaf and dumb people called me Satan I could not understand what is Satan"

Did they call you "Satan" by the deaf and dumb alphabet on their hands? "Yes"

During the eighteen months he was under observation he exhibited not the slightest mental change unless in the direction of increased dulness. He was, however, a useful worker.

Male, æt. 33; Deaf and Dumb; High-grade Ament; certified one year; Symptoms for Four Years previously; Well-marked Dementia.

CASE 692.—W. R—, male, single, working jeweller, æt. 32. Certified one year and had shown symptoms since the age of 27. Notes taken two days after admission.

Patient is deaf and dumb. Hair greyish-black with several white patches. Palate high; tongue points to the right when protruded. Right naso-labial fold present, left absent. He has a wide-awake appearance as regards the eyes, but his face is expressionless when in repose. He is emotional, being at times rather depressed and at others mildly excited. He occasionally laughs in a foolish manner. He takes practically no interest in his surroundings, and it is difficult to attract his attention and still more difficult to retain it even for a few moments. He is able to read and seems to understand written questions, but he can

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rarely write a satisfactory reply even to the simplest. He has obviously possessed some considerable degree of intelligence and education, as when he is presented with the written question: "Where are you?" he writes in reply: "I am in the asylum." When asked where he has came from he writes, after an interval, the first letter of the name of his last asylum and then stops. When asked when he came he writes: "I come," and again stops. When asked the day (Monday) he puts down a "T," and half writes a second letter. He then makes several attempts at commencing a reply to a question as to why he is in an asylum, but does not get a single letter written. To the question put in a different form he attempts no reply. When asked if he has always been deaf and dumb he writes, "No." When, however, he is asked how long he has been deaf and dumb, he does not write a reply to this question, but first crosses out the "No" he had answered to the previous question and then re-writes it. To further questions he makes no response, but he continues to try to read the notes I am writing, apparently more because he has hitherto been reading my questions than from curiosity. He gives one the impression that he reads and understands what is placed before him, but he is either incapable of thinking of, or unable to initiate, a reply. He invariably smiles in response to a smile. He exhibits much mental hebetude, and during examination he in not a solitary instance initiates any motor phenomenon beyond an occasional foolish laugh.

Whilst under observation he continued dull, listless, uninterested in his surroundings and entirely unemployed.

Male, æt. 64; Deaf and Dumb; Epileptic; High-grade Ament; certified two years; Previous Attacks at the Ages of 60 and 42; Well-marked Dementia.

Case 693.—S. H—, male, single, cooper, æt. 64. Certified two years. Previous attacks at the ages of 60 and 42. Epileptic. Paralysis on paternal side. Notes taken two days after admission.

Patient is deaf and dumb and is stated to suffer from epilepsy. He is an old man of pleasant appearance, who smiles in a knowing way. He at once writes replies to written questions. The following are examples of these:—

"*What is your name?*" "S. H—"

"*What age?*" "born 1837 cooper at C—with my father when he dead but doctor take me up here"

"*How long have you had fits?*" "but born 1837 october at C—with my parents deaf and dumb asylum 10 years but holiday every summer at with my father"

"Fits?" "forget all away last 10 years time but any (? my) Sister can tell you about me all right"

"*What day to-day?*" "September 23" (correct), adding what appears to be "sheep farm 21" or "sleep fair 21" (he was admitted on September 21st).

"*What a week did you earn as a cooper?*" "the same with my father about 12 years then he dead out away but doctor Turner Take me up to L—...(?)...mary nimon"

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The above replies indicate an originally defective intelligence, some degree of inattention to the questions asked, and a certain amount of mental decadence. The defective composition of the replies, and also the misplaced and missing capitals, and, except in a solitary instance, the absence of stops will be noted. The spelling, on the other hand, is correct.

Whilst under observation he was dull, apathetic, uninterested in his surroundings, and unemployed, though he was able and willing to attend to his own wants.

(2) Deaf, Cases 694–5.

Male, æt. 46; Deaf; certified twelve years; Symptoms for Four Years previously; Mania; Forgetting how to Speak; Moderate Dementia.

Case 694.—D. H—, male, married, plasterer, æt. 46. Certified twelve years and had shown symptoms since the age of 30. Mother very deaf. Notes taken four days after his admission.

Patient is a happy-looking and very garrulous man, who looks and speaks in a childish manner. He is almost completely deaf. He talks rapidly about himself and his work, but pronounces his words very badly. He states whence he has come and when he was admitted to that asylum. As far as can be understood he speaks quite intelligently. He acknowledges that he is at times excited, but he speaks so quickly, and the words are so imperfectly articulated and so rapidly pronounced, that it is not always possible to understand him. As he cannot hear, or, at any rate, cannot be got to understand questions, these have to be written down. When asked his name in this manner, he writes: "Mr. D. H— from the Parrash of C— near E—." When then asked if he worked at his previous asylum, he insists on writing down this reply also, as follows: "at times at Cleaning han Bead Making han hother odde Jobs." His writing is halting and of an uneducated and self-acquired type. It is obvious that, owing to his inability to hear his own voice, his articulation has gradually degenerated until his speech has become almost unintelligible. At the same time he speaks unusually rapidly, and, frequently, his phrases become little more than gibberish. In other words, in consequence of his deafness, together with his chronic mania, he has gradually ceased to be able to speak properly.

Whilst under observation he remained garrulous, excitable, irritable and quarrelsome. He was a useful ward helper.

Female, æt. 54; almost totally Deaf; certified one year; Mania; Hallucinations of Hearing; Delusions of Persecution; Mild Dementia.

Case 695.—S. C. D—, female, widow, laundress, æt. 54. Certified one year. Notes taken on the day after admission.

The patient shows no obvious stigmata of degeneracy. Her palate is high. There are skin-cracks on the abdomen. The breasts are normal, but the patient states that the right was "gathered" on two occasions.

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The patient is totally deaf on the right side, and very deaf on the left. She uses an ear-trumpet in the left ear, and with this can, though with difficulty, hear what is said to her.

She is of intelligent appearance, and readily answers questions and volunteers information about herself. She knows where she is, and states that she long ago read in the papers about this (new) asylum. She knows the day and gives the date correctly by reckoning forwards from last Sunday, the date of which she remembers. She informs me correctly when she went to her previous asylum. Before going there she began to think that people did things to try to get into her sister-in-law's house, in which she resided. She also thought that some of the things in the house were changed whilst she was out. She has heard curious noises in her ears for a considerable time. Some four or six weeks before leaving her sister-in-law's for the asylum she had a quantity of wax removed from her ears. Since this operation was performed the noises have sounded more plainly, and she is therefore sorry now that it was done. The noises sound "like a lot of steam and water rushing." Whilst at her sister-in-law's house, which was near the police station, she asked whether there was a prison there, and if the noise was caused by the prisoners. Whilst in her previous asylum she slept badly. She "used to be awakened at night by people talking and ill-using other people—a young man or young girl calling out 'mother.'" She heard this every night at G— Asylum. Last night she heard a "curious noise" here. "I don't know what it sounded like." She thinks it probable that these noises and voices are produced "for annoyance, but I don't know who."

Whilst under observation the patient was a good and useful worker, particularly at sewing. She was irritable, unstable, bad-tempered and quarrelsome. She was solitary and moody, but tidy and careful of her appearance.

(3) Deaf and Blind, Cases 696–9.

Male, æt. 65; *Deaf and Practically Blind; certified eleven years; Previous Attacks at the ages of* 54, 53, *and* 50; *Symptoms at the age of* 16; *Hyper-activity of the Sense of Touch; Mania; very little Dementia.*

Case 696.—J. M—, male, single, milkman, æt. 65. Certified 11 years; previous attacks at the ages of 54, 53, and 50; showed symptoms at the age of 16; had scarlet fever at the age of 25. Notes taken on the day after admission.

Patient is quite deaf and practically blind. The right pupil is occluded, and there is a marked corneal opacity on the inner portion of the left cornea. He appears to see slightly through the outer portion of the left eye. Palate narrow. Eyes close together.

Patient is a vacant-looking man, who appears to be some years younger than his stated age. He informs me that his name is *G.* M—. He indicates that he can see very slightly with the outer part of the left eye and not at all with the right. He tells me that his eyes have been operated on three times. He informs me, "I don't know what to say,"

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as, owing to his deafness, he cannot hear questions. He squints and turns his head round, as I am sitting on his right side, in order to try to get a glimpse of me, and tries to get me to clearly understand that he cannot communicate with me owing to his blindness and deafness. He points out that he has no pain anywhere, and endeavours in every way in his power to supply me with information about himself. When I touch his mouth he opens it, puts out a tremulous tongue, and tells me that he possesses only eight teeth (correct). He responds to the least tactile suggestion. When I open one of his shirt buttons he takes off his shirt, lies down flat, keeps on breathing deeply during my examination of his chest, and then puts his shirt on again. He shows much more intelligence than is exhibited by most patients possessed of the ordinary faculties, and is both very anxious to do what he thinks I require, and very smart over its performance.

Whilst under observation he was unemployed owing to his sense-deprivation, but could find his way about and look after his own wants. At times he became excited and quarrelsome, and he was, as a rule, irritable and unstable, and liable to fall out with anyone in contact with him.

Male, æt. 45; Deaf and Blind; said to have had Fits since Birth; Probable High-grade Ament; certified eight years; Mania; Much Dementia.

CASE 697.—T. G—, male, single, farm labourer, æt. 45; certified eight years. Is stated to have suffered from fits since his birth. Notes taken four days after admission.

Patient is quite blind and quite deaf. External strabismus. The right side of the face exhibits more puckers than the left.

He is a dull-looking man of fatuous aspect. He breathes heavily. It is quite impossible to communicate with him except by tactile suggestion. He is very dull and slow in his movements. He reacts to stimuli in a dull and listless manner. If his coat is half taken off he will complete the process. If his coat is given to him and an arm is inserted into a sleeve he will then put on the coat. He will completely, though very slowly, dress himself if his socks are given to him and the rest of his clothes are placed near him. He is clean in his habits and he feeds himself. He is at times irritable and stubborn. For example, he always endeavours to begin his meals as soon as the food is placed before him and before grace is said, and he resents being made to wait. This is obviously caused by his inability to either see or hear what is going on around him.

Female, æt. 81; Blind and very Deaf; High-grade Ament; certified seven years; previously in a Workhouse; Mania; Considerable Dementia.

CASE 698.—A. D—, female, married, housewife, æt. 81. Certified seven years, and was previously in a workhouse. Notes taken three days after admission.

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A pleasant-looking old woman. Her forehead is narrow and receding, and she is quite blind and very deaf. She gives her name and states that she has been twice married. She says that she was 78 years of age on the 11th of May last. She states that she came here the day before yesterday (three days ago), and that the day was Thursday (correct). The present day is Sunday (correct). She persists in the statement that she has only been here two days, and even alters the day of her admission to Friday (incorrect) from Thursday (correct) in order to make the latter agree with it. She has come from "H— Hospital, and some said Asylum. I don't know which for I can't see and can't tell you." She was there for more than six years and went in a February (correct). She thinks that she was put there "as I had a fever and didn't know what I said . . . I never told a story the whole time, and behaved myself . . . I gave a penny to one, and twopence to another, and sweets to another." She acknowledges that when she was first taken to H— Asylum she was excited.

Whilst on the way to this asylum, both in the train and elsewhere, she gave away everything she possessed.

During the period that she was under observation she was usually a decent and well-behaved old woman, who gave away everything in her possession or that she could get hold of. She was, however, irritable and unstable, and frequently lost her temper and became excited. She was unemployed owing to her age and sensory defects, but was able to do a good deal for herself.

Female, æt. 57; Deaf and Blind; High-grade Ament; Certified seven years; Speech largely Unintelligible; Mania; Much Dementia.

CASE 699.—E. S—, female, single, of no occupation, æt. 57. Certified seven years. Notes taken on the day after admission.

Corneæ occluded by thick leucomata. Right pupil pin-point and immobile, and left pupil invisible. Very little hair on the pubes. Abdomen covered with skin-cracks. Breasts very large. As the patient is a very stout woman the skin-cracks do not necessarily indicate a former pregnancy, although they are suggestive of this.

The patient is quite blind and totally deaf. She is an excitable and spiteful old woman, who speaks quite unintelligibly and in an explosive manner. She is very sensitive to, and strongly resents, any attempt to touch her. She shrieks and yells when an endeavour is made to examine her, and strikes out blindly in all directions. She shouts out something which one interprets as "Can't you be quiet?" She several times loudly passes large quantities of wind *per rectum*.

When undressed last night she struggled violently with the nurses and told them that a policeman was coming for them. She also remarked, "You must not terrify poor Lizzie."

Whilst she remained under observation this patient continued excitable, spiteful, and resistive. She fed herself, but did nothing else.

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(4) Blind, Case 700.

Female, æt. 65; Blind; High-grade Ament; certified thirty-seven years; Speech, except at times, quite Untelligible; Mania; Much Dementia.

Case 700.—E. P—, female, single, of no occupation, æt. 65. Certified thirty-seven years, since the age of twenty-eight. Notes taken on the day after admission.

Pupils entirely occluded by leucomata. Palate high and broad. A beard and moustache of moderate dimensions. Red œdema of the feet. The second toe of each foot is small and lies on the dorsal surface of the adjoining toes. Skin cracks on the abdomen.

The patient is an old woman of dull and fatuous aspect, who lies with her eyes closed and mutters to herself in an entirely unintelligible manner. Such words as, or words resembling, "Lord," "devil," "you know," "I know," can be made out. When asked her age she remarks, relatively clearly, "Don't you be a fool." Every now and then she laughs to herself at something she says. She rarely or never takes notice of what is said to her, and her attention cannot be retained. She has obviously forgotten how to pronounce, or ceased to be able to pronounce, words properly except by accident, perhaps in consequence of her blindness, her habit of talking to herself, and her prolonged residence in an asylum.

She strongly resents any attempt at physical examination. She eats bread and butter, but feeds herself with her fingers. She is irritable and quarrelsome and resistive, and is often excited. She is very dirty in her habits and is unable to attend to her own wants.

Whilst this patient remained under observation her condition continued quite unaltered.

(*To be concluded.*)

Recidivism regarded from the Environmental and Psycho-Pathological Standpoints. By J. F. Sutherland, M.D., F.R.S.E., Deputy Commissioner in Lunacy for Scotland.

The Insanity Test of Criminal Responsibility.

There is little use in going back a century to Lord Hales' test of responsibility, *viz.*, that in order to exempt from punishment there must be total deprivation of understanding and memory. It is discredited by jurists as well as alienists. Lord Mansfield's attitude to the test in 1812 is a decided advance on Hales' in so far that to be answerable the accused must

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possess a mind capable of distinguishing right from wrong generally, and not in relation to the particular act. But in 1843 the point was again raised in an acute form, and the House of Lords propounded certain questions to the judges with reference to the law of insanity with the view to an authoritative exposition which would in future guide courts of justice. These answers, constituting the law of England upon the point, were to the effect that to establish a defence on the ground of insanity it must be proved that at the time of committing the act accused was labouring under such a defect of reason of the mind as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know he was doing what was wrong. The question of right and wrong in the abstract is here abandoned. It was to be put, not only in reference *to the particular act* charged, but also *at the time of committing it.* Some jurists, and most alienists, are dissatisfied with the insanity test as it stands, but, whatever individual views may be of the criminal law in relation to responsibility thus laid down, it must be apparent to the most ordinary observer that, by the acceptance of the authorised test itself, the intoxicated authors of crime, especially homicides, manslaughter, serious assaults, and these form 80 *per cent.* of such crimes—implying violence and recklessness, would not be held responsible—there is no gainsaying that—and would either be dealt with as insane or punished by long confinement in prison ; in either case society would be protected against such potentially dangerous elements in its midst.

ÆTIOLOGY OF RECIDIVISM.

The causes of recidivism, operating singly, or, as they often do, in combination, are given as nearly as possible in the order of their significance.

I. (A) *External.*

(*a*) Slumdom, with its rookeries, "farmed out" houses, and one-roomed dwellings.

(*b*) Intemperance.

(*c*) Illiteracy, and lack of proper training in childhood and youth.

(*d*) Idleness after school life, resulting from that

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incapacity for work which would yield a living wage, due to lack of manual training.

(B) *Inherent.*

Physical and mental degeneracy of the hereditary and acquired types.

II. The dominant mental characteristics of avarice, acquisitiveness, malice, and lust.

III. Penal systems, and criminal and delinquent laws.

Of one-roomed dwellings, etc., there were, in 1907, in Glasgow, 23·8 *per cent.*; in 1880, when John Bright delivered his rectorial address to the students of Glasgow University, 30 *per cent.* In Manchester, in 1907, the percentage was only 1·90.

The Board of Trade Return for 1907 is so remarkable, is, indeed, staggering, as to the relative positions of these two cities in the matter of housing, as to justify its reproduction in full: (1)

	Glasgow. *per cent.*	Manchester. *per cent.*
One-roomed houses	23·8	1·90
Two-roomed houses	47·9	6·09
Three-roomed houses	17·5	4·43
Four-roomed houses	5·8	42·15
Five and upwards	5	45·44

Penal Systems in Relation to Recidivism.

This in itself is a very wide subject, and as it assumes so many different forms in the same and different countries it is quite impossible to do more than touch the fringe of one or two of the main features as they bear on recidivism. Transportation no longer obtains except in the three European countries of Russia, France, and Portugal. Germany, strange to say, contemplates its adoption as part of its penal system. Imprisonment and penal servitude suffice for most civilised nations. In some of the States of the American Union "indeterminate sentences" are in operation for young felons from sixteen to thirty, and are carried out in the reformatories of Elmira, Concord, and Pennsylvania. There is this proviso attached to it, that the sentence shall not exceed in duration the maximum sentence possible under the law for the specific crime committed. These have rightly engaged the attention of thoughtful reformers

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in other lands. A beginning has been made in this direction in England at Borstal and Lincoln prisons, set apart for juvenile felons up to twenty years. But whether the sentence be "determinate" as it is in every other country, or "indeterminate" there are several considerations in penal discipline which bear on the criminal and on the problem of recidivism. These are, in the order of their importance, cellular or associated confinement and the duration of solitary cellular confinement, hygiene, discipline, industry, and diet in relation both to the task set and to the daily sustenance of the ratepayers taxed to maintain prisons and reformatories. It is assumed that in every country the diet is sufficient to maintain health and to enable the prisoner to perform his task. In some of the United States prisons the *menu* is more like that provided for an epicurean, being rich, varied, and more expensive than the food of a large section of the sober, honest, and industrious taxpayers. This should not be. It is calculated to attract rather than repel the recidivists, and puts a premium on crimes and offences.

That penal systems past and present have much to do with the vitality of recidivism is not seriously disputed. For a century and more prison and social evolution has been proceeding in the right direction and on right lines, in some countries more rapidly than others. Each generation has produced its reformers, taking up the problem where their predecessors left it, and it would seem now as if we are nearing the final lap when that evolution will have reached its culminating point. Prison reform, which is indissolubly woven with social reform, has had at all times many advocates in the legislature, in departmental administrations, in the press, and in works of fiction. Quite recently an eminent fiction writer conversant with the problem, but not with human nature on its erring side, produced a scheme for present day uses in which excellent elements are strangely blended with discarded ones. An outline of his panacea is as follows: A modern statesman with the capacity and dynamic will of a Napoleon, and with fewer of his scruples, has arisen. The honest working and industrial classes are to be freed from the perpetual and ever-growing burdens of prisons, workhouses, asylums, and reformatories by the establishment of a paying penal colony in the hinterland of Cornwall. The idea is excellent. The army of "unfits," "unemployables," and "incorrigibles" in society,

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after a sifting trial, in which it must be said full justice is to be done them by competent judges, are to be sent there, and, like the ancient Athenian under the decrees of Atimia, deprived of all civil rights. The evidence of unfitness for freedom and civic rights, like the object in view, leaves nothing to be desired. A military martinet was to rule the place, and the "perpetual slaves"—the term is ominous and bad—were to be compelled to work the disused tin mines to profit. The voice of humanity is not heard in this hinterland. There is no pretence of that. The clanging of chains, the click of rifles, the shooting of bolts, the suppressed moans from the "triangle"-room, alone break the silence and monotony. The turnkeys (*guichetier*) of the Paris prisons of the Revolution, with his bull-dogs, the felon-tamers of some of the prisons of the Western States of the American Union in the third decade of last century were to be revived in a measure. Like all such experiments made in this and other countries with the prospect of being self-supporting and something more, this one ends in mutiny and disaster. There can be no retracing of this track. It has been tried again and again in the past, in the hulks, galleys, and bridewells, and failed. Even here, with the mental flaws and stigmata of heredity and degeneracy on all sides, or the acquired flaws of vice and disease, the victims of soulless oppression combined to purpose, as political prisoners have frequently done in Siberia and elsewhere. The plan failed to recognise the fact that a large number of criminals and delinquents who are feeble-minded and mentally warped are either the pliable creatures of circumstances or the variations or "sports" of nature.

Great Britain and Ireland.

A better knowledge of, and a pardonable belief in the penal systems and the criminal laws of one's own country, and of the evolutions both have passed through, will be sufficient justification for briefly dealing first with it, next with the Anglo-Saxon experiments in the United States, and last, of Continental methods.

Within a century, without going further back, one may learn the story of legal and penal evolution in Great Britain and Ireland, in which the prevention of crime, like the estimates of criminals themselves, and the springs of crime in relation to

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society, have undergone frequent and important changes all for the better, and suggestive of truer conceptions of all three—conceptions destined ere long to bring about happier and better results.

Towards the close of the eighteenth century Howard's monumental work to bring about judicial and penal reform was beginning to tell. The doctrines of Paley and his followers, who multiplied capital felonies until 220 stood on the Statute Book, were passing away. Philosophers and jurists, following the lead of Montesqieu (2) and Beccaria (3), not without cause denounced our criminal laws and our penal system with their many barbarities. Jeremy Bentham, with his strong belief "in the greatest good to the greatest number," was the leader of this school, and contested the doctrine of Paley that the security of society, secured by sanguinary laws, was the paramount object, punishment fitting neither the crime nor the criminal, but the facility of its commission and the difficulty of detection. At this time the hulks, bridewells, and county gaols were forcing hot-beds of abominations, fevers, disease and unspeakable cruelties. Judges and magistrates discreetly, in the course of official duty, inspected them from the *outside.* There was no thought of isolation, separation or reformation. Detention and security was all that was looked for. The idea of the punishment fitting the crime, not to speak of the criminal, had not taken hold of the legal or public mind. All were herded together, convicted and unconvicted, and debtors, irrespective of age, sex, or crime, the silly and crazy inmates, of which there were many in those days, affording sport for the sane miscreants. Alike for the insane and the criminal these were the dark ages.

The beginning of the nineteenth century, when banishment, the hulks and gaols in which felons were herded together, and fettered at the will of the gaoler, were considered by the ruling classes as the panaceas for criminality—the *first* epoch—brought into being strenuous reformers, such as Blackstone, Romilly, Fowell Buxton, Elizabeth Fry, Wilberforce and Mackintosh. They led a successful crusade against the penal system and the congeries of capital felonies on the Statute Book, Romilly rightly contending that a merciless code was provocative of crime.

The idea of Beccaria and Paley was that the sole function of

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the law was the protection of society by the punishment of crime, regardless of the fact that society, as then constituted, and to a less extent now, is a part sharer in those crimes, and will continue so long as ignorance, idleness, slum-dwellings, and intemperance are permitted to continue.

The Benthamite philosophy was but a development of the Beccarian, and the theory of punishment passed through three stages, selfishness being the guiding principle: first, the selfishness of a minority; second, the selfishness of a majority, and third, the catholic selfishness of the whole.

The philanthropic school now in the ascendancy, which held that the chief object of the State is to prevent crime, and that the reformation of the criminal is the best way to accomplish this, punishment to bear a part in the reformatory treatment, but not one whit more to be applied than was absolutely necessary. For this view there is much to be said.

Lord Eldon (John Scott), a famous Scotsman, and a still more famous lawyer, who entered the arena as an opponent of penal reform, retarded for a time needful and urgent reforms, but about 1820 the era of cold obstruction's apathy and Eldonite obstinacy was drawing to a close. Equally great minds and hearts were working in an opposite direction. Henry Brougham, whose famous speech "on the present state of the law" took six hours for its delivery, Robert Peel, and Mill, Bentham's greatest disciple, were untiring in their efforts for reform. Many of the dreadful evils, more like those of Moroccan Kasbas of the present day, the weight and cruelty of fetters which are now only visible in museums and in exhibitions of torture appliances, varied directly as the insecurity of the prisons. There were one or two exceptions in Gloucester and Sussex in which the separate cellular system was tried, on the initiative of the Duke of Richmond, whose house for generations has produced penal reformers. As the outcome of these experiments, promiscuous herding was to give way to separation and classification, as far as these could be carried out in the separate cells available, in separate boxes in chapels with masks, and in separate airing yards.

Mill considered *industry* carried on under the separate or silent system as the great reforming agency; Sydney Smith *deterrence by punishment;* and Elizabeth Fry, *industry with religion tacked on.* To Sydney Smith industry was like a red

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rag to a bull. Peel's well-known Gaol Act of 1823, laid great stress on "hard labour," and the corrective potency of the "walking wheel" or "everlasting staircase," as the felons termed it, a day's work on the wheel producing nothing in the way of results, being equal to a double ascent of Ben Nevis.

Under the "silent" system convicts slept in separate cells but worked and fed together, not a word of speech being allowed. In 1835 the Duke of Richmond passed a Bill, the two main provisions of which were, uniformity of discipline, and the appointment of five Government inspectors, whose duty it was to devise something different from the cruel austerity in force in some prisons, and the extreme laxity in others. But it was not until 1842—the *second* epoch—that the separate or cellular system had a fair chance, Pentonville being the model for England and Perth Penitentiary for Scotland. The advocates of *encellulement* believed in the reforming potency of solitude. The objections put forward were—the cost, the lowering of physical and mental health, and the failure to reform. As "cellular" prisons were much more costly than the "congregate," Carlyle fulminated from his Olympus at Chelsea, and declared that the "diabolic *canaille*" should be dropped over London Bridge into the Thames sludge. In 1847 Earl Grey and his Ministry, acting upon the report of Lord Brougham's Committee, accepted the "separate" system as the most efficacious method of discipline, imprisonment being the first stage of reformation; a probationary period of association in the public works at home the second; and shipment to the Colonies on tickets-of-leave the third.

In 1850 Directors of Convict Prisons were appointed with excellent results.

In 1859 the hulks in England and at Gibraltar were abandoned.

The "silent" system found a notable opponent in Captain Maconochie, R.N., who preferred the "mark" system, which he had worked so successfully in the Australian penal settlements. Instead of a "time," it inflicted a "labour" sentence, in order to earn back freedom, restraints being gradually relaxed as conduct improved and power of self-control increased. There is a good deal to be said in favour of the "mark" system, but

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its chances of success were better in Australia, in which at the time honest industry of such a profitable kind awaited convicts on discharge as to make crime a bad speculation; and, moreover, all the females and many of the males were ultimately absorbed into the free population.

In 1850 discussions in Parliament and in the press were hostile to the separate system, as carried out, and the public failed to see the difference between methods of true kindness and those of indulgence. Mr. Pearson, M.P., advocated at this time a "labour and appetite" proposal, his main planks being industry, food, and the "mark" system. The municipal mind of the day, strongly reliant on common sense, the treadmill, and the crank, as strongly believed in the deterrence of penal grinding in the solitary cell, the only companion of the felon being his crank-handle, a *primum mobile*, no greater than a rush of water or a puff of steam.

1853 witnessed the passing of the first Penal Servitude Act, which inflicted shorter sentences of penal servitude for transportation. It failed of its purpose, and in 1857 a second Act was passed, in which a large remission of sentence was made the reward of industry and good conduct. In this year the "separate" system was in force in 120, or a third, of the English prisons.

But the criminal and penal problem, in spite of all the plans put forward from time to time to cope with it, no doubt more rational and humane as the years passed on and as experience was gained, was still unsolved when the Prisons Act of 1877, the splendid work of Sir Richard Assheton Cross, the Home Secretary (now Lord Cross), became law.

This may be termed the *third* reform epoch. It was a veritable Magna Charta for the prisoner quite irrespective of the benefits to society and the taxpayer. By this act the control of prisons was removed from a variety of local authorities and placed under the control of Prison Commissions responsible to Parliament and to Secretaries of State for Home Affairs. A local or provincial system made way for a national system. A uniform system of discipline was introduced, and scores of prisons were closed with benefit to the ratepayers and to prisoners. The benefits of centralisation and nationalisation and of the better government and control of the prisons, although resisted at the time, are now fully acknowledged. The good

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work done by the English Prison Commission has been already referred to. It remains to be said that in the matter of discipline, hygiene, diet, the staffing of the prisons by an intelligent and superior class of officers, and justice to prisoners the Scottish Prison Commission (4) has at least as excellent a record. The staffs are, as a rule, adequately remunerated, and in addition to security of office, never enjoyed prior to 1877, can look forward to a pension. The complaints of prisoners as to treatment are investigated by an independent body, the Prison Commissions, who are assisted in the work by Visiting Committees appointed by burghal and county authorities. The benefits to the central administrative authority of the co-operation of local authorities are fully recognised. It remains to be said that cranks and tread-wheels were dispensed with in Scotland several years before this took place in England.

The country is now on the threshold of the *fourth* epoch when Ministers of State concerned with home affairs, the executive officers of the law, judges of eminence, psychiaters, prison administrators, magistrates, and social reformers have come to recognise that much still remains to be done in justice to the criminals and offenders themselves as well as to society. This may be termed the turn of legal, medical, and sociological psychologists, who are looking at the question in all its bearings, from new points of view, and approaching it with confidence. Every penal reformer is nowadays more or less of a psychologist. Except for the "professional" and "incorrigible" criminals, most prisons might well be turned into labour settlements, labour colonies, industrial reformatories, and inebriate retreats. The lines of reform proposed, embracing an extended classification, would begin roughly here, further classification of young and old, of first criminals and offenders, and "repeaters," having regard to the usual nature of their crimes and offences, following after the first sorting has taken place. And as each repeater will be physically and psychologically carefully analysed in order to detect physical or mental stigmata, traceable either to heredity, vice, degeneracy, or environment, or to all three. Twenty-two out of every twenty-four hours lived by prisoners in silence and solitude for long periods, it is hoped, will be a thing of the past, as everything so unnatural ought to be. The room or apartment will, by its construction and furnishings, be more human-

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ising. Associated labour with safeguards, and the safe exercise of the faculty of speech would be allowed. Works of an industrial and educative kind would be engaged in and taught ([5]). Education of a thorough-going kind could not fail to be a feature of the penal evolution, which, profiting by the past, it is believed would bring us as near the *ne plus ultra* as possible. Its advent will be hastened by legislation of a social kind, bearing chiefly on intemperance, and slum dwellings, and the prevention of juvenile delinquency. The separate sleeping apartments, unless for medical or special reasons, would continue. To it the recidivists and long-term prisoners could retire daily for two or three hours for meditation, light work, and reading.

"Indeterminate" sentences, it is expected, will shortly be grafted on our statutes as well as the provision of a different mode of supervision and guardianship on absolute or conditional liberation. The revival of something approaching Sir Walter Crofton's experiments in Ireland of "intermediate prisons" and individualisation of prisoners would, with modifications, be good policy. Although it failed in Ireland, for reasons not fully understood, it contained the germ of a sound penal policy. Isolation in two cellular prisons there formed the first stage of discipline. From it, with a good conduct and industry sheet, he passed on to a public works' prison, where he passed through three grades, each remove bringing a change of garb and increasing rewards. The most important feature in the grading was the gradual relaxation of restraint, and the right to self-government was thus restored by degrees. The "intermediate" prison acted as a moral sieve, retaining the bad and letting the good pass through. The remissible portion of the sentence and other inducements provided the necessary stimuli, and the discipline was thus worked with a strong motive power. In the two "intermediate" prisons, one with a farm and the other with a factory attached, there was the smallest amount of supervision, and the convicts, surrounded by many of the temptations of ordinary life, found themselves with hardly a vestige of the moral "go-cart" left to lean upon.

United States.

Fourteen years ago the writer made a visitation of inebriate retreats, asylums, workhouses, reformatories, and prisons in

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the United States and Canada. Among the prisons visited were those of Elmira, the New York State Reformatory, The Tombs, and Blackwell Island Penitentiary (New York), Sing-sing, Baltimore, Philadelphia, Chicago, Boston, and Massachusetts. In the United States there are only four government or federal prisons; the others are either under the different states or municipal management, the result being two prison systems of the most opposite character were in full swing, the "separate" and the "congregate," each having the strenuous advocacy of its managers as well as of its patrons, who seemed to have a good time on the whole. In American prisons there was much to learn and much to avoid. The state prison of Auburn, New York State, which is a good type of a "congregate" prison, was the famous prison which seventy years ago produced the felon tamers or wardens who dispensed with high walls, *chevaux-de-frise*, and bars and bolts, the cowhide thong and the rifle taking their place.

The "congregate" prison with its extensive and well-equipped workshops suggests a factory as much, or even more than, a prison. Cherry Hill Penitentiary, Philadelphia, is probably the best type of the "separate" system, and resembles our own. Attached to some prisons are large farms, stone quarries, and brick works. The "doubling up" and indiscriminate association day and night, especially at night, is rightly considered bad policy in this country. One thing which should be insisted upon if a modification of the "separate" system during the day and during work is meditated in this country, *viz.*, the privacy of a separate sleeping apartment will continue. The principal features of United States prisons and reformatories differing from British are the workshops, which give one the idea of a factory, the large farms attached to many, the legal "eight hours shift" for the warders, the use of tobacco for chewing (not in the reformatories for young felons), the many opportunities for conversation, the instrumental band in the chapel, the prison newspaper, edited and printed by prisoners, dining *en masse*, the cells made of steel twice the thickness of boiler plate, armed sentries with repeating rifles, walls thirty-five feet high and fourteen broad at the base, the *female* certified nurse in charge of a male hospital assisted by male prison orderlies, ablutions before meals, the all but entire absence of denominationalism in the services, the cell furni-

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ture, the diet, and the mode of employment. The last two call for some remarks. The cell furniture allowed to well-conducted and industrious prisoners, unlike ours, consists of a cupboard, table, small mirror, photographs of relations, pictures, engravings, drapery, cage birds, etc. The *menu* is certainly very different from ours, and looks very tempting, and may well explain the return of their own accord of several prisoners on parole. But an ordinary dinner of five courses—mutton broth, roast mutton, stewed potatoes and buttered parsnips, rice pudding, coffee and bread—is enough to make the teeth of a British autolycus to water. With regard to employment, Colonel McHardy, C.B., Chairman of the Scottish Prison Commission, who visited thirty-two of these institutions in 1902, informed me of the two systems in operation of the "contract" and "state account" for the state or city, spoke of its great importance in treatment. By the former an agreement is made with contractors to supply them with prisoners at a fixed price per head to manufacture articles of which the contractors are merchants. The State provides the prisoners and the workshops or factories, and the contractor provides the whole suite of machinery and the raw material, as well as instructors competent to teach the prisoners. To the head of the Scottish prison administration the result of this system seemed "excellent and infinitely better than a system of idleness," and in this most penologists will be disposed to agree. For extra work the prisoner is paid money, which goes to his credit, and the financial results are remarkable, Baltimore gaol not only being self-supporting, but having a balance to the good of nearly £3,000. The provision of work by the State affords a solution of the difficulties of dealing with a managing contractor provided a sufficient supply of orders can be obtained for the various public departments to keep the prisoners busy. In most prisons the prisoner is somewhat of a profit sharer, and he is allowed to send money to his relations, or even to subscribe when a prisoner without funds is being liberated. This should tend to industrial effort and to better feelings. Originally, in all the prisons work was looked upon as an essential, but this has, remarks Colonel McHardy, "remained the dogma in a few"; the voice of the trade unions has been so strong as materially to check labour in others. One remarkable feature is the number of visitors who are

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allowed to inspect these institutions. Two hundred in a day when excursion trains are running to the gaol town, as much as a quarter of a dollar being charged for admission! This reminds one of Jeremy Bentham's economic and beneficial plan of a hundred years ago, to erect a panopticon prison with a central argus chamber for the prison officers, a combination of reflectors to keep the prisoners under continual inspection, and the admission of the general public on the principle that thieves *in posse* might take warning by contemplating the plight of thieves *in esse*.

Uniformity, under one controlling and administrative authority, exists in Great Britain. From what I saw, it would appear that in the United States flourishing side by side are two kinds of prisons and two systems of prison discipline diametrically opposed to one another. In addition to the prisons to which reference has been made there are the five adult reformatories of recent growth, of which Elmira is probably the oldest and best example. The governing principle of these is a repudiation of the doctrine of the "punishment fitting the crime," and the adoption of "indeterminate sentence," under which the length of sentence is not pronounced, nor its duration fixed, except by the condition that the individual cannot be kept in custody longer than the maximum sentence allowed by the law for the particular crime committed. This principle is now partially embodied in an Act for England and Scotland, by which imprisonment prisoners of two years and under may, like convicts, get a proportionate remission of sentence if reported industrious and well-behaved.

There is, further, a trade school, so complete that each prisoner may learn and practise the occupation best suited for him to follow on release, a school of letters covering instruction from the kindergarten to the academic grade, together with courses of lectures on natural science, historical, economic, and ethical questions, followed by a free discussion in which prisoners have put to professors of ethics and political economy hard nuts to crack; military organisation and drill, physical culture and well-appointed gymnasia with baths, swimming-baths, and massage appliances to compensate asymmetries and physical defects; music, vocal and instrumental to refine and quicken susceptibilities. One may ask, is all this necessary? In the reformatories for the youthful and more hopeful felons there are three grades.

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The first dine by themselves, can order their own *menu*, and have additional furniture in their rooms. All the three grades work together, and there is in consequence a great deal of association. Before final discharge the individual is handed over while on *parole* to a suitable and selected guardian, and upon his report depends absolute liberation. Eighty *per cent.*, it is claimed, have been reformed, but independent observers consider the figure much too high. Half of it or less would be good work, and welcomed in this country. All this is achieved within two years' time.

FRANCE.

France has 500 prisons and a daily population of 50,000. These figures might imply double the criminality of Great Britain and Ireland, but it would be an incorrect inference. Its penal code speaks of (1) "contraventions," the pettiest offences met by a week in prison or fine; (2) "delits" for imprisonments exceeding a week and under five years; and (3) "crimes."

By this arrangement the title given to the offence or crime is regulated by the sentence. That the arrangement is not satisfactory may be judged by the "delits," which would cover almost anything, and certainly some of the worst crimes known in this country.

In this country there is no uniform system, both cellular and associated confinement being recognised. Of the former Paris has its Mazas and La Santé, *travaux forcés*. The evils of association are said to be minimised by classification, and as almost all the associated prisons have separate cells these are used for the worst (the *relegués*), and for the best prisoners. In the larger prisons many and varied industries are carried on, and many are employed in making toys, puzzles, bon-bon boxes, hosiery and cabinet-making.

In the Corsican settlements reclamation of land, clearing of forests, cultivation of the orange, the vine, the olive, and mulberry trees for the silk-worm, are engaged in. France, in 1851, after it was abandoned by this country, began deportation to New Caledonia and Guiana, and still clings to it. Although still pursued by the French criminal authorities the hope is not entertained that either penal settlement will become a prosperous colony as was the case with Tasmania or

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Australia. Juvenile delinquency has, as might be expected, received considerable attention at the hands of the French authorities. Two kinds of institutions exist, the *first*, punitive or correctional, the second, simply reformatory. To the first are sent all youths convicted of offences committed with *full knowledge* of their criminality, and those relegated from the reformatories as insubordinate; to the second, children not responsible for their acts, and ill-behaved children whose parents or guardians are unable to manage them. For boys there is the La Petite Roquette, Paris, as an example.

In France it is alleged that serious crimes, such as murder parricide, poisoning, in spite of strict cellular confinement and banishment, has increased at an alarming rate. These crimes would not be considered the measure of Britain's criminality. That is measured by crimes against property and against the person to obtain property. In 1897 Alfred Fouillée wrote: "Crime has trebled in the last fifty years in France, although the population has hardly increased." Before accepting this one would like to know what is meant by "crimes." French statistics, like British, have got to be carefully analysed before they can be seen in their true setting and anything like their true value realised. *À propos* of this the *Spectator* (6), commenting upon crime statistics, very truly remarks: "It is unfortunate that statistics cannot be compared on their face value; they are misleading without reference to the conditions under which they were compiled, and that reference opens up a vast field for the play of bias and preconception."

The "Loi Berenger," providing for arrests of judgment when extenuating circumstances can be pleaded, remission of "penalties" in the case of minors who appear to be reclaimable, and suspension of sentences in cases of good behaviour, anticipated our First Offenders' Act and the Probation of Offenders' Act by several years.

SPAIN.

In the Saladero, Madrid, association in prison and at labour is the rule, and the discipline is lax, especially in the præsidios at Carthagena and Granada, where a system much like what was in vogue in this country sixty years ago may be seen. The discipline in force is not deserving of the name, at least in

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the Granada one visited by the writer in 1903. Prisoners convicted of grave crimes are deported to the Balearics and the penal settlements at Ceuta and Melilla.

ITALY.

In a country rich in criminal anthropologists and jurists, the penal system is better than in most European states. In the ordinary prisons a gradual amelioration of condition is secured by good conduct; in the *bagnios*, or hard-labour prisons, in addition to exemption from fetters, convicts may gain the privilege of completing the last half of their sentence in one or other of the agricultural colonies on the Tuscan Islands, or in the intermediate prison on the island of Capri, in which a state of semi-liberty exists. This plan was in vogue forty years ago in Irish prisons, under Sir Walter Crofton. Why it failed there it is difficult to understand. The principle underlying it was sound. It is claimed that in Italy associated convict labour has given good results. In the prisons or penitentiaries the labour is industrial and contractors have control of it.

RUSSIA.

Crimes for the most part in Russia are political, for which 50,000 are yearly exiled to the penal settlements of Siberia. These crimes are a protest against despotism, rapacity, and oppression of the worst kind. Crimes against property are bound to increase in Russia while there remains such a gulf between the ruling classes, few in number, the professional classes, also few in number, but in sympathy with the third, comprising the multitude who are uneducated and have no political rights at present. In the cities of Russia drunkenness and disorder, due to the drinking of impure vodka among the poorest, prevails, and in this respect resembles the seamy side of social life in British cities and towns. The Mujak and Ostiak of Russia are objects of commiseration.

PORTUGAL.

At Lisbon, Coimbra and Santarem, there are cellular prisons, and the system of strict separation for years, when first adopted

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in 1884, was expected to reform and deter. The anticipations have proved as illusory as the benefits of deportation, for the *relegués* to the penal colonies on the West Coast of Africa. In prisons on the associated plan the discipline is lax and little good results.

SWITZERLAND.

From the Swiss there is much to be learned in regard to the methods of dealing with vagrants, inebriates, and recidivists. The prisoner passes through three stages: first, isolation; second, employment in association; and third, comparative freedom. The labour is chiefly industrial, but there is a form of penal labour, which includes street-cleansing, road-making, and dykeing the rivers, carried on, not by contractors, but by the prison administration itself. Each recidivist or inebriate, on discharge, is provided by societies with a patron, personal sympathy and interest being considered of more value than mere money, which is the easiest way to many of ridding themselves of responsibility, and this personal relationship begins before he or she has left the prison. The patron sees that his *protégé* is placed in a new environment removed from harmful influences. The surveillance, as might be guessed, is quite different from that of the police, and resembles that in operation in connection with our First Offenders Act. The results are said to be very satisfactory. The penitentiary system of Switzerland is well thought out. At first there is cellular confinement, then there is progressive life in common, and finally conditional liberation.

With the vagrant class Switzerland has better methods and better success than most continental countries. The colonies are mostly compulsory, only three being of the voluntary type and managed by philanthropic societies, but those who gain admission require to rest for one or two months. Nearly every canton has a compulsory colony managed by the cantonal council. The vagrant is liable to imprisonment for a period of from two to six months, or to detention in a forced labour colony for a minimum term of two months and a maximum of two years. These colonies are small, as a rule never exceeding two hundred inmates. The farms are worked economically, and from the workshops articles of commerce are turned out. The result is

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that begging and vagrancy have greatly diminished, and the success of the colonies from the economical and reformatory points of view has been gratifying.

BELGIUM.

In this country absolute separation, no matter what the length of sentence, prevails. It is carried to the chapel and the triangular airing yard. In support of the system its advocates claim two things, first, that the prisoner lives in association with the prison staff, and second, that there has been a steady diminution of crime. The first is a fiction, no matter what its advocates in Belgium and this country may say, and the second might have occurred under a different penal *régime* in a country as prosperous as Belgium. Although cellular or solitary imprisonment has received the closest attention in Belgium, a new school has arisen which dissents from this hitherto accepted principle, directing attention to the mental and physical wreckage resulting.

HOLLAND.

Cellular or separate confinement is restricted to *two* years in prisons worked upon this system. But in other prisons association is allowed. The labour in both is industrious, not penal, and a variety of handicrafts are carried out under contractors. Trades are taught to those undergoing long sentences. Properly trained in school, and to manual labour after leaving school, this would not have been necessary, but the chances are if he had been equipped for life's work he would not have been under restraint.

PROPHYLAXIS OR PREVENTION.

The prophylaxis or prevention, both of crimes and offences, is a matter quite independent of, and takes precedence of, judicial and penal reform, for it is rightly assumed that *first*, all juvenile, *second*, most juvenile adults, and *third*, some adult criminals and offenders may by means of the social reforms sketched, escape or be detached from careers of wrong-doing,

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and become industrious and respectable members of the community.

It will be admitted that for the three classes, healthy decent homes are an absolute necessity. This connotes a summary ending of rookeries and slumdom, and that provision both by municipalities and by private philanthropic enterprise, which for some years has been successfully in evidence in large cities, of plain sanitary dwellings amid healthy environments exposed to light and air, and that publicity which no honest law-abiding citizen fears. In the slums material as well as moral hygiene and race efficiency have not had much chance. The sudden transference from darkness to light, from squalor and indecency to comfort and sanitation, may, to begin with, be too much for the submerged twentieth, and there might be the risk of property deterioration unless something is done to educate them to the duties and obligations of the new situation. Obviously this education can best be secured by the appointment of competent and tactful visitors of the volunteer and remunerated class, who would give instruction in ventilation, cleanliness, ablutions, cooking, and domestic order. Unless this is seen to, relapses, in many cases, may be looked for. By some such step as this, unfortunate young children will in reality have the "chance" in life that everybody at present is talking about. For the safeguarding of the health, habits, and morals of the children thus handicapped, legislative interference is needed to secure that, on proof of the unfitness of parents or guardians, removal to proper care can be effected by the supervising authority. The blemishes calling for action would be an immoral atmosphere, habitual drunkenness, cruelty, neglected education, and idleness, or employment after school life is ended of a kind not calculated to be helpful and self-supporting in adult life.

When all this is done it will be found that by reason of physical or mental defect, or both, that a proportion cannot stand alone. For them guardianship and helpful visitation is required, just as guardians and probation officers are for habitual offenders and criminals who can no longer be considered juveniles.

Dr. H. B. Donkin (7), speaking with the authority of a hospital physician and of a prison administrator, pointed out that a good many of the mentally defective school-children are

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likely, following the path of least resistance, to drift into delinquency and crime, and that among criminals a large proportion are found to be congenitally feeble-minded, and that among minor offenders in local prisons the proportion of prisoners of weak mind was from 10 to 15 *per cent.* The relation of heredity to crime is, he adds, simply through mental defect, and a readiness to succumb to environment.

It has been asserted by a few able writers that all crime is more or less of a disease; by the vast majority of observers this is not admitted. It is a view which has alarmed the public mind. Jules Morel, Chief Physician to the State Insane Asylum, Mons, Belgium, holds that the "incorrigible" does belong to the domain of pathology. There is much to be said for this view. Verily, our prison population contains a considerable proportion of pathological products. Critics of the doctrine that all crime is more or less of a disease contend that it is one based on the assumption that mental and physical degeneration is invariably the cause, and not the effect, of crime and vice. The truth is, it occurs both ways. But what, it may be asked, in the light of treatment, does it matter? The distinction is unimportant. Both products have to be specially dealt with in any penological system, perhaps with this reservation, that the genetous specimens being in no way to blame, might receive a little more consideration. In the ætiology of insanity just as with the inmates of asylums, heredity and acquired mental states are met with, some of the acquired traceable to vice, yet in regard to treatment no difference is made.

But all this, on behalf of the three classes, entailing cost, labour, and anxiety, will be fruitless and Sisyphian, unless the legislative axe is laid at the root of the two social trees of slumdom and intemperance with the concomitant evils of ignorance, poverty and parasitism. This is the great sociological factor of the recidivist problem, and of vastly greater moment than the judicial and penal reforms to be alluded to.

Among the prophylactic and remedial measures put forward by mistaken race enthusiasts and social therapeutists is the Spartan-like one of sterilisation of the "unfit" among recidivists, degenerates, imbeciles, and sexual perverts. The writer has no place for it, and there is not the remotest chance of a British legislature entertaining or sanctioning such a proposal, and

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if there was, it is doubtful if qualified public mutilators could be found. The suggestion may be set aside as not only impracticable but not calculated to serve the end in view—the mental and physical well-being of the race. Medical certificates of fitness for wedlock are equally absurd.

Something can be done effectively to check the procreative proclivities of feeble-minded women who rear a brood of illegitimates, some of whom are imbeciles or "soft," and the females among them in turn perpetuate the evil so that it is no uncommon experience to find three such generations under the same roof. The evil referred to, in so far as it is not due to mental weakness, is attributable to life in an atmosphere inimical to chastity and decency.

Before the drastic remedy of sterilisation is entertained society would first require to know the effect upon such of better housing, better sanitary conditions, compulsory seclusion in inebriate retreats and reformatories and labour colonies, and of better methods than those at present in operation, not only to keep in check but to terminate a scandalous state of society. Many of the other obsessionists referred to do little harm in the way of perpetuating their kind. Their habits and their mode of living is inimical to life and to lineal succession. But nowhere is the argument weaker as to the transmission of hereditary or acquired defects than it is in regard to the vast majority of "professional" criminals who live by crime, and in spite of the risk of lengthened loss of liberty make a good thing of it, the "swag," often considerable, enabling them to indulge in luxury, idleness, and debauchery. They do not lack brains or intelligence. Of these they have more than their share, but it is put to a bad use. In the case of such "professionals," by wiping out the rookeries and haunts in which they are hid away, by compelling able-bodied, dishonest, and idle fellows to work and live in the light of day, the theory of hereditary or acquired transmission in their case either falls to pieces or hangs by a slender thread. It would be no infringement of individual liberty if the police regularly visited such in their haunts and had them under surveillance.

Sir Robert Anderson ([8]), late Chief of the Criminal Investigation Department, Scotland Yard, regarding crimes against property makes the following observations: While ordinary crimes against property are decreasing, crimes of this kind by

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the "professional" class are steadily on the increase and have become a serious public danger. This class, few in number when compared with the seven classes of criminals tabulated in judicial statistics, to use his words, "keeps the community in a state of siege." They are not particular whether in achieving their ends they maim or kill. Their watchword seems to be, "Your money or your life." For them no extenuating circumstances are put forward. They are not constrained by necessity, and, unlike habituals driven to crime by hunger or by inherent or acquired weakness of moral character, they live in luxury. The protection of life and property can best be secured by the "indeterminate sentence" carried out in a penal settlement.

From what has already been written it must be apparent that the main line of treatment and prevention lies in two very different directions—*first*, an adjustment of the social position and condition more in accordance with every canon of justice and right for many who are to be found in the ranks of recidivism and for many qualifying for it; and *second*, for others a psychological and psycho-pathological investigation into each law breaker who has qualified and is qualifying in criminal or delinquent habits, in order to determine approximately how far the will, affected by mental warp or defect, is free, and then settle for them their mode of life and work, and the degree and kind of supervision and moral support called for. And there can be no possible hardship or infringement of personal liberty to authorise suitable persons to supervise those criminals and petty delinquents who, with or without the apparent excuse of mental or bodily defects, or without visible means of honest subsistence, live a parasitic, debauched life in slums and do no honest work, preferring to be idle and debauched, or to plunder as opportunity presents itself.

Juvenile delinquency, whether due to environment or to mental and physical degeneracy, or to both, is undoubtedly to a very great extent preventible; philanthropists have proved that. As a cause of adult recidivism, it is possible to tap much of it at its source. This kind of delinquency is said to be decreasing, and statistically that is certainly the case, and in reality to some extent it is true, but it should be made plain that much of that delinquency in evidence in criminal courts and in prisons a quarter of a century ago and later is now more fittingly lodged in reformatories, industrial schools, and train-

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ing ships. The Children's Bill, linking together the whole scheme of reformatory and industrial schools, just introduced into the House of Commons, is one of many steps in the right direction. It provides that no child under fourteen years of age shall be subject to imprisonment, and none under sixteen to penal servitude.

The lines which prevention should take have been dealt with at some length in the course of the article. These may be briefly summarised as follows:

(*a*) For children of tender years, decent and healthy moral homes, under respectable parents, or guardians in the case of orphans and deserted and neglected children likely to go astray, would give them a chance.

(*b*) Removal from such homes or guardians, on proof of unfitness, by the supervising authority and boarding-out in respectable rural homes under proper safeguards; or to industrial schools, truant schools, etc.

(*c*) Special police courts for children. Birching preferable to brief imprisonment or fine.

(*d*) For children of an older growth, and for their years too well acquainted with criminal and delinquent ways, industrial and truant schools, training ships, and reformatories.

(*e*) Education and training in industrial work is indispensable for all: likewise ethical and religious teaching. Much of the crime and delinquency of every land is due to a neglected, ill-regulated childhood, spent for the most part in the street, and in abodes of infamy and immorality, parental responsibility and example being a *minus* quantity.

(*f*) A summary ending of slum dwellings, and of the land laws and the economic conditions creating and perpetuating them. Municipalities, like philanthropic agencies, to be empowered to provide and supervise cheap, healthy dwellings. Attention to the alcoholic problem in its relation to slum dwellings and crimes and offences.

(*g*) For those who have so far graduated in criminal and delinquent ways, and for those who may fairly be set down as recidivists, rational and humane treatment in prisons, inebriate reformatories, shelters, and labour colonies ([9]); the fewer in aggregation in the last three institutions so much the better.

(*h*) Special homes and special treatment for the weak-minded

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and those with mental warp either in certified or State inebriate reformatories, in shelters and labour colonies.

(*i*) Suitable help and supervision, both of young and old, on discharge from all places of detention, by means of Probation Officers.([10]) An "after-care" association would, in a general sense, and the Probation of Offenders Act ([13]) with the developments foreshadowed by Lord Advocate (Shaw) would, in a special sense, meet this.

(*j*) The provision of work for the unemployed, and shelters for those of them requiring it. ([12])

A memorandum, issued in March, 1908, by the Home Secretary, Mr. Gladstone, in regard to the probation officers to be appointed under the Probation of Offenders Act, 1907, for juvenile delinquents and adults of respectable antecedents, has been submitted to justices and magistrates. It sets forth that police officers employed are not to wear uniforms, that honorary volunteer officers will be available in many districts, that female probation officers should be appointed for boys and girls of school age, as well as for women and girls over sixteen, and rarely, if ever, police constables, and that the work found should be of a skilled kind and not casual.

Lord Advocate Shaw, speaking of the purposes of the Probation of Offenders Act, 1907 ([13]), said the object was "to seize all possible cases of the beginning of a career of crime, lift them out of the hard and fast category where the punishment and the punishment alone was made, as it were, to fit the crime, and hand them over to some authority which would impose some new test in the situation, and which would give a humane touch of helpfulness and foresight, and which might retrieve the man in danger of being a criminal from a life of crime."

Jurisprudence and Penology.

The attitude of the criminal laws and of judges towards recidivism and the treatment of the recidivist by police and prison authorities are as uncertain, unscientific, and as varied in the same and in different countries as the types of habituals themselves. The personal equation of the judge counts for much. Sentences, too, often assume a cast-iron type and appear, as a rule, to fit the crime, and in no sense, or very slightly, the criminal, about whom judges as a rule know

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next to nothing as to bodily and mental condition, temptations, antecedents, customs, and environment, etc. The trained legal mind would be greatly enriched by the study of sociology.

Lord Guthrie, one of the senators of the College of Justice, Edinburgh ([14]), in making an appeal for the introduction of the "indeterminate" sentence, showed the absurdity of the present system of judicial punishment by citing the case of the man who would be reformed long before his sentence expired, whilst another unreformed, and undeterred, was allowed to go free to resume his old career. He further said he believed much in environment and little in heredity, and that if the stream of crime was to be dried up the country must be prepared to deal drastically with the causes, one being intoxicants, and to remove the children from the influences of criminals and drunkards. These views will find ready acceptance.

Colonel McHardy has said that "there is no crime at all to speak of in Scotland; it is all a question of whisky. The day may come when all but a few of our prisons may become inebriate homes." A good many observers will not go this length or anything near it, believing that to the worst criminals who attack property and the person for gain this dictum does not apply. It is true, no doubt, of the great army of petty offenders, such as drunkards and prostitutes, and of major crimes against the person, such as homicides, bad assaults, and cruelty to children.

The idea tacitly acquiesced in by the public that criminal courts in residence and on circuit must have pabulum—sensational or sorbid—regularly provided for them will, it is hoped, by-and-bye be no more a reality than that the high officers of State in Japan, as grotesquely represented in the "Mikado," must provide for the ruler of that country, the victim for a public execution when he made state entry into a town.

The laws ordain imprisonment, penal servitude, and transportation as the penalties for recidivism. Transportation with its long track of failure and cruelty is now only carried on by Russia, France, and Portugal. It is a confession at once of impotence and fear. Great Britain abandoned it forty years ago. It is known to have made recidivists more inhuman, more hardened, and more determined than ever. There is nothing to be said in its favour. Public safety for life and property is assumed because thousands of miles of land and sea intervene

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between convicts and the Fatherland, and because they are worn down by unhealthy climates, rigorous discipline and scarcely refined cruelty, all the more reprehensible that it is hid from the view of the nations still adhering to this barbarous plan of punishment. Reformation and regeneration is not dreamt of.

It is a moot ethical question, what is the first duty of society to recidivists, whether blameworthy in whole or in part, or, as in some cases, not at all.

It is acknowledged that society can and must protect itself against the law breaker, but it is not creating a fine distinction to say that there is a great difference between society *protecting* itself and society *punishing* the criminal, in the more or less irrational way it does by means of that unworthy *motive*, the fear of penalties, many of which cannot be defended. It has been shown that of every 100 who go to prison for the first time 30 come back, but of every 100 who have been five times, 79 return! Terrorising rather than reclamation, whatever may be aimed at, is the result, and there can be no doubt that the more punishment in certain harsh directions is practised the more is the human element in criminals starved, and in proportion as individuality is ruthlessly suppressed in the routine life of months and years of all but absolute silence, and monotonous labour of anything but an inspiring kind—the recidivist becomes a well-disciplined and, as a rule, well-behaved human automaton. *Apropos* of this, Michael Davitt, a political Irish prisoner and a *litterateur*, with much truth and force remarks, "The human will must be left outside the prison gate where it is to be picked up again five years afterwards and refitted to the mental condition which penal servitude has created in the animalised machine which is discharged from custody. . . . Working on such lines, on the lines of greatest resistance, it is no wonder that penal servitude is a fruitful nursery of recidivism and a patent instance of expensive failure." Preferable would be the compulsion to lead that orderly, industrious, and as nearly normal life as is possible in a prison. That is more dreaded by the average criminal than any treadmill, air-grinding crank, or degrading uninteresting and non-educative labour.

The Lord Advocate for Scotland (Shaw) said of him, "In a parliamentary assembly I should command the assent of all shades of opinion to this, that no greater prison reformer has

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ever impressed his views more consciously and more vividly than Michael Davitt." Everyone who has had the privilege of discussing prison reform with Davitt will appreciate the eulogium.

Society always may be counted upon to assert its obvious right, and undeniable might, to punish its noxious and offending members. But this should not be all. There is its obvious duty and true interest to transform as many law breakers as possible into useful and law-abiding citizens. It is recognised in this country and on the Continent, that the industrial tendency of social evolution points conclusively to the transformation of prisons into industrial centres. The Departmental Commission([15]) of 1894 (England) recommended "the practice of association for industrial work," and it is being gradually introduced among women prisoners and juveniles. The right of society to protect itself is admitted by all, to punish by a majority. But what is punishment? The daily task is not viewed as a punishment. The writer holds that although *punishment* should begin and end with loss of liberty, of friends, of indulgences, and of amusements for long periods, severe enough if one contemplates what it all means, it should *not* involve an all but abnormal life for months or years inside a cell of four brick walls unrelieved by anything to suggest the normal life outside, such as a mirror, a bookshelf, an engraving or oleograph, a photograph of family or friends, a cell from which, owing to the height and size of the barred window, with its opaque or fluted glass, the solar rays, and the orb and the eyes of the night cannot be seen; a cell in which the faculty of speech is repressed except for a few minutes daily. It is bad physically and mentally for those who spend twenty-two out of every twenty-four hours in this way. This system is not so bad, no doubt, as that which preceded it, *viz.*, promiscuous association of prisoners day and night with all its iniquities and contaminations, but the cellular and separate prison system in its refined and subtle ways presents objectionable features as all systems must inevitably do in proportion as they depart from the ordinary modes of living of free citizens. The evils of promiscuous association are glaringly exemplified in the prisons of Spain, Portugal, and in some of the prisons of France, and of the United States. Cellular separation is met with in British, Belgian, and in some of the French and American prisons.

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It is inevitable there must be some differences between the living of the free and the bond.

It is not to be thought that a reversion to association after careful classification except at work is advocated. The writer is convinced that in prisons as well as in barracks ([16]) every individual should have the privacy of a separate sleeping apartment unless the physician on medical grounds orders otherwise. His cell or room should be made as homely as possible in the manner indicated if the human element in their hearts is to be conserved and reformation accomplished. No artificial method, no matter how long practised and believed in in spite of failure, will avail. By all means let the separate sleeping-room be retained, but convert prisons into industrial institutions, houses of detention, or reformatories. In Elmira and Concord (United States), the principle has been recognised that up to a certain age almost any criminal is salvable, and is to be regarded as *potentially* having the making of a good citizen. The writer, who is no optimist, and has seen in all its reality something of the seamy side of society, is of opinion that many of the adult criminals and delinquents under a rational penal system and under better social conditions may be regarded in the same light. It has been asserted that after three or four convictions an offender is almost sure to return again to prison and become a recidivist. This may be true of criminals undergoing long sentences, but it is not true of thousands of persons committing petty offences who fulfil this definition. So far, then, it will be conceded that recidivism is the outcome of irrational and unnatural penal systems, but to what extent it would be difficult to say. Healthy industrial life should be made the basis of a reformatory system. Japan, the gateway of the day, has reached something like the zenith of industrial life and work in prisons. According to capacity work is arranged, and some make *cloisonné*, others carve, do carpentering and casting, grind rice, and break stones.

And what could be more humanising than that a prisoner should be employed at educative and remunerative labour, labour that would tend both to form and reform character, out of the earnings of which he might be permitted to send a small contribution to his family circle from time to time? Of course this implies a different kind of work from that at present in vogue, work unhampered by trade unions, which, owing to the

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paucity of prisoners compared to the general population, have in reality nothing to fear. It would be true economy to the nation in the long run.

In a communication ([17]), cleverly critical of the defects of some of the methods in operation in Scotland, some pertinent observations are made. But, it may be observed, destructive criticism, although valuable, does not carry us far.

Summary of penal reform.—(1) The conversion of prisons into industrial reformatories with associated labour and conditions favourable to physical and mental health. This, of necessity, implies an end of the solitary system during working hours; special housing and treatment of the feeble-minded, as is now the case at Aylesbury Prison for females.

(2) Cultivation and afforestation of land in connection with reformatories and labour colonies.

(3) The adoption of the "indeterminate" sentence and of the probation system as practised in connection with Borstal juvenile-adult prison (England) and in the United States.

(4) The appointment of a specially qualified medical man to plan and supervise the anthropometric, physical, psychical, and psycho-pathological investigation into the case of each prisoner qualifying for recidivism, and of a competent observer of the great environmental factor in all its bearings. Such an official as the first has been recommended by three Government Commissions for Ireland, England, and Scotland ([18]).

(5) The appointment of male and female officers with experience of the insane and in possession of the certificate of the Medico-Psychological Association.

(6) More fining and smaller fines for petty offences, and more frequent admonitions. This would tend to make the police the friend of the petty offender, and instead of dragging every drunk and disorderly person to a police cell, his place of residence might be ascertained, to which he could, before or after attaining sobriety, be taken in a cab or on an ambulance stretcher, the cost being met at the time or afterwards, time being allowed to the offender for payment.

(7) It has been suggested by Colonel McHardy that the education of prisoners should be undertaken by School Board teachers, with the consent of the Education Department and School Boards, and the work directed and supervised by inspectors of schools.

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In the rope of rescue suggested by these seven strands there is no weak spot.

In regard to the new buildings which might be required, a word of caution may not be out of place in this country any more than it is in the United States, where architectural *gloire* has been much in evidence in regard to prisons and asylums. Speaking of gaols, H. Hill ([19]) hopes "that the fashion which led to the erection of gaols in fine architecture will soon pass away, and that we shall rid ourselves of that strange kind of vanity which causes us to make a parade of moral deformity"; and Dr. Bleyer adds, "this applies equally to our magnificent lunatic asylums. Should we make a parade of mental deformity?"

The Departmental Commission of 1894 for England, already quoted, while giving credit for all that has been done since the passing of the Prisons Act of 1877, by administrators of prisons in the matter of hygiene, health, discipline, orderliness, economy, and high organisation, remark, "The moral conditions in which a large number of the prisoners leave the prisons, and the serious number of re-committals have led us to think that there is ample cause for a searching inquiry into the main features of prison life ([20])." The "solitary" system has been proved devoid of any touch of humanity, of few, if any, of those influences which might soften the hard or heal the broken heart, nothing but silence, monotony, despair, and a starvation of the mental faculties resulting.

For long it was maintained in Great Britain that *nine* months was the longest period of solitary confinement which could be well endured without injury to mind and body. It is now reduced to *six*. But it is still too long. And it is no excuse that this severe strain is greater in France and Belgium, where it runs up to years, and is defended by its advocates, medical and administrative. In the view of the writer it is indefensible. Criminals are not monks under vows of silence and seclusion, nor recluses, although in time some of them may approximate the latter in eccentricity and deviation from the normal.

It is not in the nature of a counsel of perfection to hold that it is only through the gates of labour that the vagrant and idler can pass into the possession of the rights of citizenship, and thus the value of workshops and technical education in places of detention becomes apparent.

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It is the case that some of the American prisons visited by the writer in 1893 as well as other public institutions are not only self supporting, but yield a profit (Baltimore). These are those in the Eastern States in which the labour of convicts is hired out to contractors, who send their plant and instructors into prisons where work is carried on to the full on the associated plan. This system is fruitful of contamination and in the long run is not economical. In the Southern States the convicts are leased out in gangs and placed in camps of contamination, the safety of the prisoner being secured by rifles, cowhides and *chevaux de frise.* There are no high walls, and no bolts and bars. The system is one neither to be approved nor copied.

Judicial and Penal Reform.

In the preceding chapters the nature of these have so been indicated that a summary will now suffice. Both for habitual criminals and habitual offenders, legislative action of a kind that will have an intelligent regard as to what is implied by punishment, deterrence and reformation is called for. Punishment implying involuntary detention and seclusion, and reformation applies to all habituals, deterrence only to some. For instance, there can be no doubt that punishment, in some cases, just as the presence of a policeman in all cases, is a deterrent to the convicted housebreaker, garotter and thief, and to others of the same *genus* contemplating these crimes, while to the drunkard neither punishment nor the policeman counts for anything. When he begins his bout these two factors do not enter into his conceptions, and when he has finished his mental vision is so obscured that he cares nothing for either. This striking distinction should not be lost sight of by those who administer the criminal law and lay great stress on punishment and deterrence.

Following a series of daring burglaries in Glasgow, and the presence in the city of a number of dangerous felons, the Lord Provost (Bilsland), speaking at the Discharged Prisoners' Aid Society, remarked very truly that once prisoners had shown ingenuity in crime they should be detained indeterminately for the purpose of reformation, and on no account should liberty be restored until there was clear evidence of an intention to live an honest life.

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It is evident from the recent trend of opinion coming from the fountain-head of justice—the Home Office—and from some judges and magistrates, and from prison administrators alive to the true line of policy to be pursued in the light of past failures of our criminal laws and penal system, that fresh legislation may be expected to fit especially the criminal and offender, however much it may fit the crime or offence, legislation which for the future will take proper cognisance of the physical and mental condition of accused, of their heredity, of their environment with its conditions and temptations, fatal to education, morality, and a decent upbringing. The "indeterminate" sentence for habitual criminals other than the "professional," for habitual petty offenders of the inebriate and vagrant type, could not but form a main plank in any enactment to bring about better and more economical results.

Likewise, legislative sanction would be required to convert most of our present penal institutions into selective *depôts* and industrial centres, and to set up labour colonies or settlements so as to admit of a classification not hitherto attempted, a classification based upon such important considerations as age, the usual type of crime or offence, moral character, mental capacity, capacity for work, and the nature of the work. The inculcation of industrious habits might be expected after a time to instil a healthy desire to work rather than to steal, drink or beg. It would be impossible to overrate the benefits of extended classification gone into carefully on these lines, and when this has been done many beneficial changes within the walls, cells, and workrooms would follow.

Such changes point to, *first*, association under safeguards in the schoolroom, at work in the shops, in the field, in quarries, etc., but not in the sleeping apartment. There would, in addition to the brief and occasional conversations now possible between prisoner and chaplain, schoolmaster, and warder, be reasonable opportunity afforded for the exercise of the faculty of speech in legitimate ways, and for varying periods of time daily, for all persons undergoing detention for a month or upwards (the present system is no hardship for sentences under a month); *second*, the work would be of a kind that would interest, elevate, and be helpful on discharge (this could not be said of oakum-picking, more fitted for machinery than human fingers and brains); *third*, the construction of the sleeping apart-

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ment with a view to adequate light for work and reading by day or night, and with furnishings, such as a bookshelf, bit of floor-matting, a mirror, oleograph, photographs of relations, which would sensibly relieve the monotony of four bare brick walls. The concession of these things, small yet significant, can in no sense be said to pamper *les detenus*. The absence of them in the past has been explained as part of the punishment, which it would be difficult to justify on a rational and intelligent conception of what is meant by punishment, which in its main features has always been, and must continue to be, deprivation of liberty and compulsory labour. Rightly understood, this is severe enough. Anything beyond this of a repressive and unnatural kind is calculated to do hurt rather than good.

In 1894, during an interview with Sir Algernon West, K.C.B., at one time a Director of English Council Prisons and a Member of the English Prisons Departmental Committee, 1894, and who was also a visitant of American prisons, he was strongly impressed with the significance and humanising effect of the small but significant and humanising things, such as a small mirror, book-shelf, photographs, etc., and was anxious to see them introduced into the prisons of this country. Changes of the smallest kind come slowly, and only now or lately have some of them been introduced into our penal system.

The Report of the Scottish Departmental Committee ([21]) appointed in 1894, by the Secretary for Scotland, Sir George O. Trevelyan, Bart., to investigate some aspects of recividism, contains some valuable recommendations in regard to habitual offenders, habitual drunkards, and vagrants, some of which remain unfulfilled. The Secretary for Scotland's remit did not cover either professional or habitual criminals. As to *habitual offenders*, it declares *inter alia*: (1) That penalties much smaller than the maximum of those competent under existing laws are sufficient in the great majority of cases to deter. (2) That petty offenders should be released at any period of detention by part payment of the fine imposed, proportionate to part of sentence still to be undergone ([22]). (3) The establishment of reformatory institutions to which habitual offenders might be sent on their discharge from prison. (4) A register of habituals on which the names would remain for thirty months, with the proviso that if at any time during this period he offended he would be sent to the sheriff, who, in addition to a sentence of

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imprisonment, would order detention in an adult reformatory from twelve to thirty months. (5) Labour settlements or reformatories in which out-door work and skilled and unskilled labour could be carried on for women habituals, who are in the vast majority, in addition to laundry work, sewing, knitting and weaving, etc. (6) Inmates to be liberated conditionally or unconditionally, or licensed out to approved institutions or persons. (7) Weakminded or disabled habituals to be detained in a poorhouse for periods and on conditions similar to labour settlements for which they are unfitted. (8) The sheriff to have power, instead of sentencing, to release on bonds or recognisances with or without sureties being entered into. (9) The utilisation of prisons and poorhouses for labour settlements.

Vagrants and beggars ([23]), of whom, exclusive of tinkers, there are censussed by the police twice a year about 10,000. Putting in force the Public Health Act, the Prevention of Crimes Act, 1871, Prevention of Trespass Act, 1865, the application of the Vagrancy Clause of the Burgh Police Act and Special Police Acts, to counties, with restricted penalties and power to send the children to Industrial Schools, was recommended.

Habitual inebriates.—Two kinds (*a*) those who find their way into the hands of the police, and (*b*) those who don't. For (*a*) adult reformatories, poor-houses and labour settlements—this, in part, has been given effect to by legislation; for (*b*) compulsory as well as voluntary seclusion in inebriate retreats for those defined in the Inebriates Act of 1879. Nothing has been done for the latter ([24]). It may be assumed with certainty that the element of compulsion would lead to more frequent voluntary application. To establish retreats for those who cannot provide all the funds necessary for maintenance it was recommended that in addition to voluntary contributions, town councils, county councils and parish councils should be empowered to contribute towards the support of licensed retreats, and likewise that it should be made an offence for a license holder knowingly to supply drink to inmates of retreats or persons under sentence of commitment to an adult reformatory, labour settlement, or poor-house. The Inebriates Act of 1898 gives these bodies authority to contribute. One town council, that of Glasgow, and one county council in Scotland, that of Lanarkshire, have set up certified inebriate reformatories

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under the Inebriates Act of 1898, and receive grants-in-aid from the Treasury.

It has to be admitted that dipsomaniacs—a large class—if they don't breed true to themselves breed something akin, *viz.*, a neurotic offspring which may eventuate in one of the many neuroses, in actual insanity, or in the true "drink crave," which, in spite of the views of sceptical writers, is as real as the drink itself or other manias.

The "liberty of the subject," one of those apparently simple axioms which transcend ordinary intelligence, is at once trumpeted whenever it is proposed to deal fairly and righteously with habitual inebriates. It would be more correct to speak of the unbridled license of the subject. Of two antithetical truths, the rights of the individual and the rights of society, some people have no difficulty in appreciating the one, but find it all but impossible to grasp the other. It is evident the rights of the individual must be subordinated to the rights of society. That is the object of government. But some of our laws present striking incongruities, and none more difficult to justify than the refusal to accept intoxication as an excuse for crime, and the treatment of repeated intoxication as beyond the jurisdiction of the law, although, with so many, the sure road to crime and delinquency.

Any statement on penology, however brief, would be incomplete without an acknowledgment of the work of the Howard Society through a long series of years, and especially of the advocacy of its late secretary, Mr. William Tallack, and its present, Mr. Holmes, on behalf of prison reform, and such an acknowledgment is also due to the Bureau of Education, Washington, U.S., with so accomplished a penologist at its head as Mr. Arthur Macdonald.

Conclusion.

Both prophylaxis and treatment in the past has everywhere, more in some countries than others, been a dismal failure, recidivism and the cost of checking it going up by leaps and bounds. The bill of costs for Great Britain and Ireland in one year to maintain the judiciaries, the prisons and the police reaches something like £10,000,000. No notice is taken in this of what it costs the Poor Law. And no doubt it is on

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the same lavish scale in the United States, and in Continental States. In any country with free institutions, with enlightened statesmen, law givers, penologists, political economists and social reformers, surely a better way might be found by an abandonment of the judicial and penal methods of the past, and the adoption of the more humane, rational, and intelligent methods, adumbrated, it is to be feared imperfectly, in the communication now submitted for criticism and consideration.

It would be folly, if not something worse, and would assuredly lead to disappointment to hold out the alluring prospect presented by different and more rational methods of preventing and treating criminality and delinquency sketched here, and elsewhere, of a considerable and immediate reduction of cost to localities and to the national exchequer. In time, no doubt, it would come, the time when many prisons would be dismantled, and the army of officials greatly reduced; but if farm and labour colonies were established and, where possible, existing prisons converted into the latter or utilised as observation and sifting depôts, it need not be a difficult task to ascertain the relative cost of maintainance of present and prospective under the old and new conditions. The fact that detention and treatment would be for long period should do something in the way of reducing a standing army of police, numbering nearly 50,000 picked men ([25]), in bringing about a reduction of the judiciary and paid magistracy of the country, and of the *entourage* of criminal and police courts. Instead of half a million apprehensions and citations in a year for petty thefts, drunkenness and disorder, prostitution and vagrancy, those for England being 386,000, and for Scotland 115,000, one would expect at least a reduction to one half, if not more, in the near future. The felon would not appear once in the dock for every six times he does now, and the petty offender not once for every dozen times. Better results would shortly be seen, and many would cease to appear. A good many of both types, the noxious and the nuisance, might be expected to return to society fitted for citizenship with or without the need of helpful patronage; but a large number already in *esse*, and a large number in *posse*, as might be gathered from the trend of opinion in regard to the constant productions of physical and mental "variations" of a degenerate type as things are, may, unless something is done for them, be con-

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sidered unsalvable, and requiring detention and supervision of varying degrees. This term is preferable to "incorrigible," having regard to the small share of responsibility which attaches to many recidivists themselves. For the rest of the responsibility, heredity and social conditions (society) must accept and apportion their respective measure of blame.

Amid the prevailing gloom which the perusal of these pages predicate gleams of light are breaking through, not least those issuing from the latest returns for England and Wales. In fifty years the population increased from 19,250,000 to 34,500,000, or 79 *per cent.*, and proportionately to population thefts had diminished to the extent of 40 *per cent.* The total number of indictable offences in 1906 was 59,079, and the annual average for the quinquenniad 1902–1906, 59,200. Crimes of violence have fallen in this period from 1,737 to 1,443. The figures for robbery show a gradual decrease; those for arson have been stationary.

As might be expected, crimes of burglary and housebreaking have increased. The same is true of sexual crimes, the numbers having risen from 421 to 1,103, or 180 *per cent.* Much of this is due, not to a greater prevalence of these crimes, but to the creation of new crimes, and a stricter enforcement of the law. Prosecutions for attempted suicide have steadily and continuously increased, a fact not of happy omen, so far as the mental well-being and stability of the nation is concerned.

The decrease of crimes generally, and especially those, such as larcenies, which are four-fifths of the whole, with acquisitiveness as the motive power, in 1906, coincides with, and may be attributed to a large extent to, increased national prosperity and increased wages. Roughly speaking, crimes against the person and crimes against property are affected in different directions by economic conditions, those of theft diminishing, those of violence and drunkenness increasing with prosperity, and, on the other hand, when times are dull and trade bad the opposite is the case.

Sentences to satisfy public opinion would, as a rule, for first or second offences, require to be brief if justice is to be tempered with mercy, but for repeated offences, when it is found that the environment is wrong and that there is evidence of mental warp or mental defect, then other places than prisons are required, such as Lord Guthrie, in the address referred to,

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mentioned, *viz.*, reformatory establishments for the "reclaimable," and places of permanent detention for the "irreclaimable." In this connection I do not include that large number of industrious workers who are foolish occasionally and may be several times in the hands of the police. Careful discrimination is required, if these latter are not to be swept into the net.

(1) Not less interesting in this connection is the return issued by the authority of the Secretary for Scotland (Mr. Sinclair) showing the percentage of population in Scottish towns having more than two in a room. The figures are as follows: Glasgow, 54·7; Paisley, 58·7; Greenock, 54·1; Dundee, 49·4; Leith, 43·8; Aberdeen, 38·1; Edinburgh, 32·9; and Perth, 28·2 *per cent.*—(2) *Esprit. des lois.*—(3) *Dei Delitti e delle pene.*—(4) Three names are pre-eminent in this connection, those of Mr. Beatson Bell, advocate, the first, and for twenty-one years *Chairman*; Colonel A. B. McHardy, C.B., its present *Chairman*; and Mr. William Donaldson, C.B., the late *Secretary*.—(5) Trades Unions need not fear competition with prison labour. It is safe to say that after deducting the sick and infirm, the cleaners, garden and field workers, laundry and cookhouse workers, and those engaged in dressmaking, bootmaking, and clothing for the service, not 1,800 out of a daily population of 2,880 would be found at any time competing with the free labour of tens of thousands.—(6) February 8th, 1908.—(7) Dr. Donkin, Prison Commissioner on the "Feeble-minded Criminal," at the conference of the After-care Committee of the Birmingham Education Authority.—(8) *Criminals and Crime.*—(9) Glasgow was the first city to establish, mainly through the enlightened efforts of treasurer D. M. Stevenson, a labour colony for forty inmates at Mid-Locharwood near Dumfries. The Social Work Committee of the Church of Scotland, of which the Master of Polworth is Convener, has set in this matter an excellent example to churches and philanthropic bodies by establishing a small labour colony at Cornton Vale near Stirling, and shelters and labour bureaus in cities and towns. —(10) To the city of Glasgow is the credit due of first instituting in this country this class of person, Treasurer D. M. Stevenson and Bailie Bruce Murray being the first to recognise its prophylactic value.—(12) Distress Committees have been formed in conformity with the Workmen's Unemployed Act of 1905. Supported by allocations from the Queen's fund, by government grants and voluntary subscriptions, labour exchanges for the registration of the unemployed, "help" factories, and farm colonies have been provided and have been a success in a way charitable agencies have never been, and the fair wage earned is not looked upon as a charity dole.—(13) The Probation of Offenders Act repeals the Probation of First Offenders Act of 1887, and section 12 of the Youthful Offenders Act of 1901, and provides where an offence is charged before a Court of Summary Jurisdiction, and the court thinks the charge is proved, it may dismiss the charge or bind the offender over with or without sureties to appear for conviction and sentence when called on at any time within three years if it is of opinion that, having regard to the character, antecedents, age, health, or mental condition of the person charged, or to the trivial nature of the offence, or to the extenuating circumstances under which the offence was committed, it is inexpedient to inflict punishment, or any other than a nominal punishment, or that it is expedient to release the offender on probation. Probationary officers may be remunerated by town and county councils when their services are not voluntarily given. The probation system is an attempt to reform a prisoner outside prison, in which a carefully-selected and discreet officer supervises, in a friendly way, the prisoner in his own home or in the home of his guardian and finds work.—(14) Address to Scots Law Society, November, 1907.—(15) *Personnel:* The Right Hon. H. Gladstone, M.P., Chairman, The Right Hon. Sir Algernon West, K.C.B., The Right Hon. R. B. Haldane, K.C., M.P., Sir John Dorington, Bart., M.P., John Henry Bridges, M.B., F.R.C.P., Arthur O'Connor, Esq., M.P., Albert de Rutzen, Metropolitan Police Court Magistrate, Miss Eliza Orme.—(16) In barracks this will be possible when the soldier for years in garrison towns is quartered in his own home or in lodgings beyond the gates and is summoned to duty in the same way as any other worker. —(17) Dr. Devon, "The Study of the Criminal," Royal Philosophical Society,

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Glasgow.—([18]) Royal Commission on Irish Prisons: Sir Richard A. Cross, *Chairman*. Departmental Commission on English Prisons: The Right Hon. H. Gladstone, M.P., *Chairman*. Departmental Committee on Scottish Prisons, Lord Elgin, *Chairman*.—([19]) H. Hill on "Crime," and Dr. Bleyer, "Treatment of Social Offenders," in the *Medico-Legal Journal of New York*.—([20]) In 1895 Sir E. Ruggles Brise, enlightened penologist, was appointed *Chairman* of the English Prison Commission.—([21]) Sir Charles Cameron, Bart., M.P., *Chairman*; Lieut.-Col. A. B. McHardy, C.B., R.E., Chairman of Prison Commission; The Right Hon. R. Farquharson, M.D., M.P.; Sir Colin Scott Moncrieff, Under-Secretary for Scotland; Sheriff Dore Wilson, Aberdeen; Dr. J. F. Sutherland, Deputy Commissioner in Lunacy for Scotland; Miss Flora C. Stephenson, Chairman of the Edinburgh School Board.—([22]) This has been given effect to by legislation.—([23]) Fletcher, of Saltoun, a hundred years ago, put them at 100,000 for Scotland.—([24]) Lord Herschell's Inebriates Bill of 1894 was rejected by the House of Lords on the second reading because it made no provision for a jury and the right of appeal. —([25]) 49,340 strong: England 33,940, Scotland 5,670, and Ireland 9,730.

The Unity of Insanity and its Bearing on Classification.

By THOMAS DRAPES, M.B., Medical Superintendent of the Enniscorthy District Asylum.

ATTEMPTS at a definition of insanity have been made by many writers on the subject, and some of the ablest have confessed their incompetence to formulate a satisfactory definition. A veritable will-o'-the-wisp, it seems to elude all efforts to crib, cabin, or confine it within the limits of our phraseology. Insanity, like unhealthiness, is a negative term. Both terms must have reference to the condition of which each respectively is a negation—sanity and health. And as an adequate definition of either health or sanity has yet to be discovered, it is small wonder if their opposites suffer from a similar disability. The fact is, all these terms are merely questions of degree, and it is impossible to predicate any complete and absolute proposition with respect to any one of them. They also imply conditions as regards which anything like unanimity of opinion is unattainable; and while one class of mind—that of a psychiatric expert, for instance—may regard a certain individual as mentally deranged, another class, such as that of the average juryman, or even the judge himself, may come to an exactly opposite conclusion, and hold that he is perfectly sane. I need hardly say that incidents of this sort were, no doubt in former times more than at present, of not at all infrequent occurrence, but even nowadays such occasionally happen. The fact is that there is no absolute standard either of health or of sanity, and each person who is called upon to make a decision in any particular case forms a hypothetical criterion for himself, and

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then proceeds to exercise his judgment as to whether the case in question conforms to or deviates from that arbitrary standard. And as everyone's standard differs—even psychologists are not always in agreement—there is abundance of room for difference of opinion. Probably the wider the characterisation, and the more general the terms in which a definition of insanity is couched the better—or perhaps I should say the less unsatisfactory—it is likely to be. And a definition of it which has been suggested by more than one writer as the failure of an individual to adjust himself to his environment is perhaps as free from objection as most that have been proposed. But would it be acceptable, if indeed it would be comprehensible, to a judge and jury?

Definitions of insanity, however, are not at all necessary for a study of insanity. On this head Spitzka, who himself formulated a rather elaborate definition of insanity, makes one pregnant remark: "It is significant in this connection that none of the most recent German writers on insanity attempt to give a definition of insanity. The chief discussion as to the possibility of concocting such a definition has taken place in the Anglo-Saxon countries, and this, for reasons it is not necessary to dilate on, indicates that the chief need for a definition is a medico-legal one. . . . That a clearly formulated definition of insanity is not indispensable to the scientific psychiatrist is illustrated by the incontestable fact that mental pathology has made more progress in Germany, Italy, and France, where little stress is laid on such definitions, than in England or America."

But while an adequate definition of insanity must in the present state of our knowledge be deemed impracticable, some conception as to what the term means from a clinical standpoint is absolutely necessary if there is to be any advance in our knowledge of the subject. And here the question of classification comes in, where, as in the case of definitions, we are at once met by the discouraging fact that authorities up to this have been absolutely unable to come to any agreement, not merely as to the categorical terms of the classification, but even as to the basis or principle on which it should be founded. No better proof, perhaps, can be adduced of the essential difficulties—we might almost say the insurmountable difficulties—inherent in this question than the fact that the Statistical Committee of our Association, acknowledged experts in this

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branch of science, have found themselves unable to make more than a very few alterations of importance in their scheme of classification from that which was adopted by the Association some twenty years ago. With respect to the principle, or no principle, on which that scheme was founded, there has been during that comparatively protracted period absolutely no advance.

Having regard to this last point, while the adoption of a new basis which would have involved material changes, with a more logical and scientific classification, would have been welcomed, perhaps, under the circumstances, it is just as well that the Committee have not made any sweeping changes in the old table, and in their action, or inaction as it may appear to many, have proved themselves wise in their generation. Who is there, if he is candid with himself, that would not confess that in many of the highly elaborate schemes of classification which have been from time to time propounded, especially by foreign authorities, he has found more hindrance than help, more confusion than elucidation, in his study of insanity? Are such schemes of the least assistance to us in our grasp of the nature of any particular case, or do they give us any enlightenment as to the treatment of such that we might not acquire just as well without them?

Not a little confusion has arisen from the practice of regarding the term "insanity" as denoting a disease. Insanity is not a disease; it is merely a symptom of disease, quite analogous to, but infinitely more complex than such symptoms as cough, vomiting, or headache. And as one fundamental error in terminology invariably leads to others, so we find writers speaking of insanity taking a certain course, as if it was a disease analogous to phthisis, typhoid fever, or Bright's disease. Insanity cannot be said to follow any regular course any more than the symptoms of cough, vomiting, or headache can be said to do so. It is the disease which underlies these symptoms which runs a certain course, and similarly, as regards insanity, it is the disease or diseases of which it is the symptom or manifestation which can alone be properly said to run a course. Now, unfortunately, the pathology of the large majority of the so-called forms of insanity is unknown to us, in which it differs radically from most of the ordinary forms of disease with which we are familiar. And so, while in what are

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popularly called bodily diseases, clinical symptoms and signs are an indication as to the morbid processes in operation at various stages of the disease, so that in a vast number of cases we have valuable indications for treatment, and when there is a fatal result are fairly confident as to what condition of organs will be found on *post-mortem* examination, we have no such means of determining the specific changes in nerve cells and fibres which underlie any particular form of insanity, except perhaps in the terminal stage of all insanity, dementia, when, however interesting such knowledge may be from a pathological standpoint, it is not, of course, of the slightest use as regards the future of the patient.

The so-called "forms" or "varieties" of insanity are not at all analogous to the same terms when employed in the case of disease of other organs than the brain. When we speak of croupous or catarrhal pneumonia, of cirrhotic, amylaceous, or cancerous disease of the liver we know that these terms denote distinct varieties of disease, with definite signs and symptoms during life attached to each. They are not, as a rule, interchangeable, and follow a fairly uniform course even in different individuals. But it is otherwise with the "varieties" of insanity. They are merely phases of mental derangement, which may be transient or of various degrees of persistence; they are interchangeable, and the same patient, whatever he may be labelled, may be at one time maniacal, at another melancholic, at another stuporous. Are there any varieties of insanity which can be said to follow a uniform course, or with respect to which we can make any reliable forecast as to what phases of disordered mentality they are likely to pass through in a way similar to what can be done in, say, a case of Bright's disease or phthisis? I may be told that general paralysis is a case in point. Well, we may pretty safely predict a fatal termination at no very distant date, but I doubt if any medical man of however great experience would venture to prophesy what phases of insanity any particular case of that disease will present in its downward course. In any case general paralysis is, I think, admitted to be a quite exceptional form of insanity, having, what no other form of insanity has, a special pathology of its own. And to my mind the term "form of insanity" applied to general paralysis is a complete misnomer; it is a form of brain disease of which insanity is

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one symptom, and to describe the disease in terms of one of its symptoms is about as reasonable and logical a proceeding as to designate pulmonary consumption as a form of cough. The cases are perfectly parallel.

The one constant characteristic of all forms of insanity is their inconstancy. This is the real difficulty, the crux of the whole question of classification. In any scientific classification the division into orders, genera, and species, etc., is based on certain constant characters invariably, or almost invariably, present in all the members of each division or sub-division, and each unit can then be without difficulty allocated to its own class, genus, or species, as the case may be. But if the special attributes of, say, animals or plants were fleeting in character, and those in one division were to resemble or be interchangeable with those of another, or of several others, according to the particular time at which they were observed, then scientific classification would be just as impossible in the case of animals and plants as it is in the case of insanity. This is the one great difficulty which up to this we have failed in any way to negotiate. Spitzka is the only writer I am acquainted with who has attempted to arrange the forms of insanity into classes, orders, and genera, on a similar principle to that underlying every scientific classification, and, clever as his scheme must be admitted to be, it has not met with any general acceptance. It is not his fault nor the fault of anybody who makes a similar attempt. Facts are against them, and perhaps, in this instance, so much the worse for the facts.

Let me not be thought to disparage in the smallest degree the labours of the Statistical Committee. I feel that we are under the deepest obligations to them, and owe them unstinted gratitude for the enormous amount of time, and trouble, and brain-work which they have so freely devoted to this difficult and harassing task. One has only to study some of the excellent new tables which they have drawn up to judge what expenditure of energy they must have entailed. And if the principles embodied in these tables are once fairly grasped, and if they are given a thorough trial, they will probably be found to be of the greatest use and convenience. The table of classification is an exception. But that is hardly the fault of the Committee; it is entirely due to the circumstances of the case, which were too strong for them. I don't suppose it would be possible for

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any body of skilled psychologists, however able, to devise any scheme of classification which would be entirely acceptable to more than a minority of their colleagues. Classification is the rock on which every framer of tables is bound to founder, and the Committee have fared no worse than others. It is no harm to make at least an effort to ascertain the cause of so signal a failure.

May I be permitted here to indulge in an illustration which will, no doubt, be regarded as belonging to the "popular lecture" class; but if it exemplifies what I am anxious to convey, it will serve the purpose intended better, perhaps, than a dry scientific recital of facts.

The mechanical arrangements of mental action may not inaptly be compared to a vast railway system, where junctions are counted, not by dozens or hundreds, but by tens of thousands, and individual lines, main, local, or side tracks, run into millions. Let us make for the nonce a scientific use of our imagination, and suppose such a railway system to exist, and that this branch of engineering science had reached such a pitch of perfection that all the arrangements worked automatically, so that officials, such as engine-drivers, guards, and signalmen, were all dispensed with as no longer necessary, and everything worked with the utmost ease, smoothness, precision, and regularity.

Now, let us suppose that at some two, three, or more of the junctions, owing to some adventitious circumstance, the points went astray in their action, that consequently lines were blocked which ought to be open, and left open where they ought to be blocked, we can imagine the confusion and disaster that would result; of limited extent if only a side-track was affected, more serious if a local line was implicated, but of widespread disorganisation if a main line were involved. The mischief would not be limited to the immediate vicinity of the junctions where the trouble originated, but would be propagated indefinitely along the whole system; each successive train being shunted to a wrong track would, at the next junction, arrive on the wrong one, and be sent still further astray by the action of the points there, and so on, the original deviation from normal being multiplied at each stage of its journey with cumulative effect until a collision or some other equally destructive catastrophe should put a stop to its career. Once the first interruption of the regular working of the system occurred, any

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number of subsequent errors would follow in its train, and would the most skilled engineer be able to predict what exact route any particular train would follow, or on what line it would eventually be found? And if he were asked to give a specific name to the erratic course each train would take, he would soon find his vocabulary exhausted. The point of this illustration is easily grasped. There are innumerable junctions of nerve-fibres and associated nerve-cells in the substance of the brain, through which are constantly passing currents which are travelling, not minutely but momently, along myriads of paths of association, the whole forming one coherent system of intercommunication. Suppose one or several of such junctions to be interfered with by some lesion which destroys or deranges the working of them, a similar course of events will take place as in the case of the railway system. Currents will be deflected from their normal path, and will pass along routes they were not intended to traverse, no doubt along the lines of least resistance, exciting into activity centres other than those they would normally have reached, and to which their passage is now blocked, and passing on from them through other junctions farther and farther removed from their regular course, thus throwing the whole system into disorder. Does not something like this occur in every case of insanity, be it slight or severe; and who will say in any particular case what direction, under such circumstances, nerve-currents, with their correlated psychological operations in the realms of thought, feeling, or will may follow, or what will be their ultimate effect?

Mind, mentality, is one and indivisible, a great complex of operations parcelled out, no doubt, for convenience sake, into certain departments of thought, feeling and will, but still one in constitution, one in working; for our intellectual, emotional, and volitional activities are inextricably intermingled, and one does not act independently of the others. Continuous interaction is the condition of all our various faculties, corresponding exactly with the intricate network of innumerable intimately associated cells and fibres of which the cortex of the brain consists. They are bound closely together into one consolidated whole, and probably furnish an example of the very highest harmonised organisation that has yet been evolved. Complex, and of multitudinous elements, it is, no doubt, to the very last degree, but nevertheless bound up, com-

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pacted, and cemented together into one consistent unity and solidarity.

Now, suppose that some disruptive agent throws into disorder this highly organised system, constituted, as it is, of myriads of inter-communicating and inter-dependent elements, fitted with the most delicate adjustments conceivable, is it probable *à priori* that such disorder will follow a uniform course in any two instances? Surely it is just the contrary which is likely to occur. We have good grounds for believing that, although similar in plan, the cortical structural arrangements differ in detail in the brain of every man or woman born into this world. No two persons think, feel or act in the same way, no two take the same view of any question, no two can hardly be said to even observe the same object in an identical manner or from the same standpoint. The intellect of each works on different lines in correspondence with the beaten tracks of neural currents which permeate their cerebral organisation, the result of inherited proclivities, individual experience, and education. It is this which forms the basis of distinct individual personality, this personal equation being a fact too frequently lost sight of in the study of insanity. And if the mechanism of any individual's mental system becomes deranged and dislocated, need we be surprised if similar differences, as compared with other individuals, occur in the operations of that system under conditions of disease or disorder to those which exist and are manifest under normal conditions? In other words, the insanity of one individual may be expected to differ as much from that of another as one healthy mind differs from another. And in point of fact it does. Where, then, the reasonableness of picking out a few cases in which can be detected a more or less rough resemblance in their course, due, probably, rather to coincidence than to any essential similarity in the order of occurrence of morbid processes, and lumping them together into one of the so-called varieties of insanity, knowing well that, although for a time, perhaps for weeks or months, the apparent resemblance may continue, at any time, sooner or later, such cases may deviate widely from each other as regards the varying phases of insanity through which they may successively pass. It is not difficult to assign any case to some particular "form" of insanity at some definite moment of time, say the date of their admission to an asylum, as in

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Table B. 5 of the Statistical Committee, but who will undertake to enter anything but an insignificant minority of cases under its appropriate heading in Table D. 3, in which we are asked to show the "Total duration of the present attack of mental disorder in the deaths, *arranged according to the form of mental disorder on admission*," during any particular year. A patient may have been admitted in a condition of melancholia or mania without delusions, may have passed through various phases, such as confusional states, stupor, etc., and have systematised delusions at the time of death, or be in a condition of dementia. How can such a case be entered in any column in this table with any semblance of accuracy or accordance with fact? Take the case of a patient who has been under my own observation for the past seventeen years. He was admitted in a condition of acute mania, characterised by paroxysms of frenzy, destructiveness, and the wildest conduct generally, passed rather suddenly after a year into a condition of profound melancholia, in which he made a desperate and all but successful attempt at suicide, emerged from that into a practically sane condition for many years, during which periodic brain-storms occurred every ten days, characterised by epileptiform paroxysms mainly of sensory centres, and accompanied by vivid hallucinations; for the past two years has become the subject of fixed delusions of a persecutory type, and now, in the end of his days, has developed a condition of mind closely resembling, if not actually identical with that of a general paralytic (owns £800,000,000, has bought up several country houses with their estates in the neighbourhood, and only a few days ago informed me that he had just purchased the winner of the Derby from "Boss" Croker as a present for my daughter, with a host of other similarly extravagant ideas). How shall we designate the form of insanity to which this case belongs? It is a living satire on our schemes of classification! Probably every asylum physician could supply, if not perhaps quite so striking a case as this, not one, but many cases differing from it only in degree, or in the order of the successive states of mental derangement.

I have urged that insanity is a symptom. It may be also legitimately regarded as a state or condition of mind, a state, like mind itself, characterised by unity with diversity—unity, as being the outward expression of the inward highly organised operations of a single organ, the brain; diversity, as repre-

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senting all the differences in detail of the structure and functions of each individual cortical system; and the only complete classification which would seem to be possible is for each individual case of insanity to form a class to itself, which is, of course, a *reductio ad absurdum*.

May I suggest that the too evident failure to devise a satisfactory classification of insanity is due in great measure to the too great attention, shall I say the almost exclusive attention, which has been given to the diversities which it exhibits, too little, if any, to its oneness, its essential unity. Finding a vast number of heterogeneous and differing phases of mental derangement, men sought to reduce those to some sort of coherence and order, to, in fact, evolve cosmos out of chaos; but unfortunately, in every scheme hitherto propounded a consistent basis of classification has been conspicuous by its absence. And in the various essays of this kind which have been up to this attempted we find varieties based on such diverse considerations as duration of illness, or degree of persistence, intensity, ætiology, pathology, curability or incurability, correspondence with developmental epochs, etc., jostling each other with an irritating incoherence.

Such a table as Table E. 2 of the Statistical Committee, which is similar to one previously in use, giving a classification of patients resident in an asylum on December 31st in any year, is one which involves nothing but bootless labour. It would be difficult to show what useful purpose it could possibly serve, or ever has served. A patient melancholic on that date may be maniacal or stuporous six months later, may be so even one day later, and such a record, to use Dr. Claye Shaw's apt illustration, is about as useful as a return from a number of general hospitals of the number of cases of pneumonia on any particular date in the stage of hepatisation, and the number of those in the stage of resolution.

The term "manic-depressive" or "maniacal-depressive," which has come into vogue of late years, as denoting a special form of insanity, although not of any value if it is meant to imply some variety not yet described, is yet of some value as indicating an acknowledgment of the fact—hitherto ignored in all schemes of classification—that there is such a thing as mixed insanity. In reality such cases are merely those which constitute a large proportion of ordinary chronic insanity. We

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might extend this nomenclature still further and describe cases as manic-depressive-stuporous, and even manic-depressive-stuporous-delusional-demented, if we want to give a more complete clinical description of quite a number of cases. The fact is, these fanciful so-called "varieties" are all nothing but clinical descriptions of the one disordered mental condition, insanity, while it is passing through certain more or less transitory, or a succession of transitory, stages, and to attach a separate style and title to such temporary conditions, or to any combination of them, is nothing but to create confusion in our conception of insanity. However, as the old time-honoured "varieties" of mania and melancholia are retained, and as these undoubtedly alternate in many cases irregularly, as contrasted with the regular cyclic periodicity of "folie circulaire," which I presume the term "alternating insanity" in the table is meant to represent, it is a pity that "mixed insanity" was not given a place in the schedule.

A classification to be really useful should be formed on a uniform basis, or on a number of uniform bases, each with its separate compartments, in one or other of which any particular case could be readily and immediately located, not, as in most schemes hitherto compiled, resting on a plurality of bases intermingled confusedly together.

For instance, the division of insanity into the two great classes of congenital and acquired has the sanction of long usage and general approval of most, if not of all, authorities, and, what is of more importance, it expresses a fact. The congenital may be sub-divided as heretofore into cases with and without epilepsy. The addition of "moral insanity" to the congenital forms, as has been done in the new table, will also probably meet with general approval.

When we come to the class of acquired insanity we have a number of bases to select from, each of which can form an appropriate heading under which all cases of acquired insanity can be included; *e.g.*, we can take such bases as "duration of illness," "intensity," "predominant symptom or condition," "epochal periods," etc. *But all the cases should be entered under each of the headings*, showing that each heading implies a different qualifying condition from any of the others, but that all cases can be arranged under its sub-divisions. Such a scheme would be simple in principle, and sound, easy of application, conveying a

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fairly accurate description of a case, and free from confusion of any kind. It might be drafted in a tabular form such as I submit here. For an annual return the arrangement would be slightly different. The "varieties" of insanity included under the heading "specific designation" would be placed on the left of the table in vertical column, the remaining columns remaining as they are. Other columns, each with its respective heading, could, of course, be added at will, *e.g.*, "ætiology," which would include as sub-divisions such forms as alcoholic, syphilitic, traumatic, toxic, etc., but the principle I am contending for should be adhered to throughout, namely, that *all* cases should be included under *each* specific heading, with a column for "unknown" at the end if necessary.

It is hardly conceivable that anyone would find any difficulty in placing a patient in his proper niche under this scheme. Thus, one would be entered as a case of acquired, sub-chronic, mild insanity, occurring during the period of maturity, and characterised by depression with fixed delusions. Another as a case of acute, recent insanity occurring during adolescence, and characterised by stupor. Anyone who is enamoured of the term "dementia præcox" can, if he chooses, give such a case this designation, but it should be entered in a separate column with "specific title" or other appropriate heading at the top, although this would not be likely to afford any additional knowledge as to the nature of the case. For the sake of completeness, and to show the adaptability of a table of this kind, I have included under the heading of "specific designation" the various forms of insanity adopted by the Statistical Committee, and it is a distinct advantage that by a glance at the previous headings it will be seen from what class of insanity a patient entered under one of the "title" columns is suffering. The totals at the foot of the columns also will enable it to be seen at a glance how many patients were admitted in, say, an acute state, how many were recurrent cases, how many were in a state of adolescence or senility, etc.

The point I am anxious to emphasise is this: In all modern schemes of classification there is no one underlying consistent basis. Dr. Maurice Craig says most truly: "Every classification of insanity is apt to confuse the student unless he carefully studies the basis on which it has been drawn up." *The basis!* To which of our most up-to-date classifications do these words

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"the basis" apply? To not one. Then God help the student. His fate will be, and is, confusion. In every system yet devised, even in that suggested by Dr. Craig himself, as he is quite ready to admit, there are two or more bases. *It is not the plurality of bases in itself that is objectionable, but that they are mixed up together in the classification.* It is there where the confusion lies; it cannot be otherwise. Now, what I venture to maintain is that this confusion is not necessary. There is no reason whatever why it should not be got rid of; and in this way: *Have as many bases as you please, but keep each as a distinct department of classification, with its own heading, its own subdivisions, and see that all forms of insanity are included under each heading.* There will then be no confusion. All plants may be classed according to the Linnean system, where the basis is the number of stamens and pistils in the flower; or according to the natural system, where the basis is certain essential characteristics inherent in the plant, and having relation to its whole plan of structure. A botanist who would describe one plant as belonging to the pentandrous monogynia class, and another as a thalamifloral, polypetalous, epigynous exogen, and were to publish a botanical work in which plants were arranged on a hotch-potch system like this, would in the present day probably be considered as suffering from one of the forms of insanity—say confusional—which are classified for us on just the same principle on account of the adoption of which by him he would be regarded as mentally deranged. Yet we who would condemn the botanist adopt and tolerate psychopathic systems of classification similar to his, and count ourselves sane men.

I am not vain enough, or shall I say not mad enough, to hope or expect that such a scheme of classification as I have outlined will ever be generally adopted, but of this I feel firmly convinced, that unless our methods of research be developed to such an amazing degree as to enable us to discover the special pathological condition underlying each of the named "forms" of insanity, if we can ever agree as to what are forms—a consummation which I fear is likely to be postponed to the millenium—no rational system of classification will be devised which is not based on the principle which I have ventured to bring under your notice in this paper.

I feel that some apology is due to the members for bringing such a well-worn theme before them on this occasion. Some

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justification, however, for my doing so may be found in the fact that any topic about which men disagree, and which is still the subject of contention and controversy, will always have a certain amount of interest attached to it until the question is finally settled. And everyone will, I think, agree that such is not the case in the present instance, and that by no means the last word has yet been said on the subject of classification.

DISCUSSION,

At the Irish Divisional Meeting in Dublin, November 5th, 1907.

After some remarks from the Chairman:

Dr. DONELAN expressed agreement with Dr. Drapes.

Dr. LEEPER thought the difficulty of classification was due to attempting to classify by symptoms instead of causes. If insanity is due to toxines its forms would eventually be classed according to the definite toxines causing them. He failed to see the necessity for such complexity as was sometimes shown in classifications, and thought that Dr. Drapes deserved praise for trying to simplify.

Dr. NOLAN did not see that Dr. Drapes' classification advanced us much. Varieties were merely labels, and useful as such, and a certain amount of diagnosis and consequent prognosis was possible. As to errors in diagnosis, such were also presented by diseases other than mental.

Dr. O'NEILL expressed himself as rather hopeless of a solution of the difficulty.

The CHAIRMAN agreed that it was a pity that in Great Britain and America insanity was so largely a medico-legal subject, as the legal mind was incapable of grasping symptomatology. For instance, a certain Master in Chancery had been unable to understand that disorientation and inability to converse indicated insanity. Insanity was not a disease, and the difficulty of classifying it by symptoms was exemplified in the case of general paralysis, which he held to be a microcosm of insanities, although a definite disease. The crux was that one form of poison produced a great variety of symptoms. Still, we should get no further if insanity were merely to be divided, as by Sankey, into "general paralysis" and "other insanity," and although it showed a multiplicity of symptoms many cases also exhibited a perplexing resemblance—*e.g.*, the occurrence of delusions of persecution. Why should perhaps the majority of chronic cases display a regular development of persecutory paranoia? We should expect all cases to be different, but why were so many alike? Delusions of persecution followed by delusions of exaltation, as in Dr. Drapes' case, had been described by Maignan as "delire chronique." Manic-depressive insanity was only an extension of *folie circulaire*. On the other hand, classification by causes led to a host of difficulties. If microbes alone are the cause, how explain cases caused or precipitated by mental trouble? In Dr. Drapes' table "youth" and "senility" were found as causes, but to prove the former a complex calculation would be required. Senility he believed in as a cause, with other things contributing. Again, it was hard to see how obsession could be caused by physical means, when it was curable by hypnotism. But all these attempts at classification helped in prognosis, and afforded indications for treatment, and, therefore, though very unscientific, were of value.

Dr. Drapes, replying, said that his particular point had been misunderstood, as his headings were merely descriptions of the state on admission, and he did not see that calling a case "dementia præcox" helped rather than saying that the case was stuporose and of the adolescent period. It was conceivable that a purely mental cause might produce a morbid change in the brain-cells. Dr. Nolan had misunderstood him: he did not say that diagnosis and prognosis were impossible in insanity, but he did not think that they were aided by calling the condition by one of these names. This classification would present no difficulty in placing the case. He thought toxines would assume a very important place in causation, but did not think they would always produce the same symptoms. This was shown by the variety of the symptoms in alcoholic insanity, and one could never predict the course of a case from a knowledge of the toxine.

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Classification of Acquired Insanity.—Annual Return.

	Intensity.			Duration or degree of persistence.					Epochal.						Prominent symptoms.														
																					Delusions.								
	Acute.	Sub-acute.	Mild.	Recent.	Sub-chronic.	Chronic.	Recurrent.	Alternating.	Youth.	Adolescence.	Maturity.	? Puerperal.	Climacteric.	Senility.	Weak-mindedness.	Exaltation.	Depression.	Excitement.	Stupor.	Delirium.	Transient.	Fixed.	System-atised.	Epilepsy.	Katatonia.	Hysteria.	Obsession.	Total.
General paralysis																													
Insanity with epilepsy																													
„ with gross brain lesions																													
Acute delirious mania																													
Confusional insanity																													
Stuporous insanity																													
Primary dementia																													
Mania, recent																													
„ chronic																													
„ recurrent																													
Melancholia, recent																													
„ chronic																													
„ recurrent																													
Alternating insanity																													
Volitional insanity																													
Dementia, senile																													
„ secondary																													

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Scheme of Classification of Insanity.

Class 1.—Congenital.	Varieties.			
	With epilepsy.	Without epilepsy.	Moral.	Total.
A. B—				
C. D—				
Total				

Class 2.—Acquired.	Intensity.			Duration or degree of persistence.					Epochal.						Prominent symptoms.													Specific designation.																
																					Delusions.														Mania.			Melancholia.							
	Acute.	Sub-acute.	Mild.	Recent.	Sub-chronic.	Chronic.	Recurrent.	Alternating.	Youth.	Adolescence.	Maturity.	? Puerperal.	Climacteric.	Senility.	Weak-mindedness.	Exaltation.	Depression.	Excitement.	Stupor.	Delirium.	Hallucinations.	Transient.	Fixed.	Systematised.	Epilepsy.	Katatonia.	Hysteria.	Obsession.	General paralysis.	Insanity with epilepsy.	Insanity with gross brain lesions.	Acute delirious mania.	Confusional insanity.	Stupor.	Primary dementia.	Recent.	Chronic.	Recurrent.	Recent.	Chronic.	Recurrent.	Alternating insanity.	Volitional insanity.	Senile dementia.	Secondary dementia.
A. B—																																													
C. D—			I		I						I						I						I																I						
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N.B.—It is to be understood that the sub-divisions under the headings "prominent symptoms" and "specific designation" are not meant to be exhaustive. Additional items can be included at discretion. Those most in use are inserted in the Table.

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I.—Clinical Results following the Injection of Tuberculin. By C. J. SHAW, M.D., Senior Assistant Medical Officer, Montrose Royal Asylum; formerly Assistant Medical Officer, Perth District Asylum, Murthly.

Observations on the Temperature and Pulse-rate.

IN no case was there any marked reaction either in temperature or pulse-rate following the injection of tuberculin.

In one control case there was a slight rise of temperature, but this was probably due to an attack of coryza and not to the injection of tuberculin, as no negative phase occurred. Two cases showed an increased pulse-rate. One, in whom a negative phase followed the injection, had a pulse-rate of 76 beats per minute on the evening of injection. The rate next morning was 92 per minute. There was no other symptom whatsoever. The other case gave no negative phase, and the pulse-rate on injection was 74 per minute. Next evening it was 92 and the evening following 102. This increased pulse-rate was not accompanied by a rise of temperature. Beyond a slight feeling of stiffness in the flank at the site of inoculation there was no local irritation in any case. This soon passed ofi and al. performed their usual duties without the slightest inconvenience.

The temperature chart of the insane frequently shows greater variation than that of sane healthy persons.

The comparison of the temperature charts and pulse-rates, before and after injection, of those patients to whom a dose of $\frac{1}{500}$ mgr. T.R. was administered, shows no greater variation than had occurred in the same case during the week preceding injection.

Only two of all the eighteen cases injected with $\frac{1}{750}$ mgr. T.R. showed a rise of temperature above normal. One was a general paralytic whose temperature rose to 99° F. on the second day after injection, but, as sudden rises of temperature are common in such cases, no weight can be attached to this. The other case was a demented patient whose temperature rose steadily from 98·2° F. on the evening of injection to 99·2° F. the second evening thereafter; but there was no corresponding change in pulse-rate and no negative phase was produced.

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This patient was inclined to be restless at the time of injection and was inoculated in the interscapular region instead of the flank, as in all the other cases, but no local irritation was produced and she did her usual work in the laundry next morning.

Only one case showed any increase in pulse-rate after being injected with $\frac{1}{780}$ mgr. T.R. This was a case of general paralysis whose pulse-rate on the evening of injection was 77 per minute. The following evening it was 89 per minute, and on the second evening after injection, when he was restless, rolling about in bed and picking the bedclothes, it was 94. He showed evidences of old lung disease, but gave no negative phase after injection, and no local or other constitutional symptoms were present.

The absence of local and constitutional symptoms was very marked, and in striking contrast with the effect produced by the large injections of Koch's old tuberculin, formerly used for diagnostic purposes. With such injections rise of temperature and increased pulse-rate, accompanied by malaise, headache, and local irritation, occurred even in healthy persons, while in tubercular subjects these symptoms were more marked. With smaller doses, for diagnostic purposes, the patient was confined to bed and injected with 1 c.c. of a ·001 solution of tuberculin. The temperature was taken every three hours. If the temperature rose 2° F. or more within twelve hours tubercle was diagnosed.

If, as Wright suggests, the production of a negative phase by the injection of a much smaller dose than produces that result in the healthy individual can be used for the purposes of diagnosing tubercular disease, the benefit conferred on humanity will be very great, as there will be no risk of stirring up old foci of disease or producing disagreeable symptoms.

Observations on the Quantitative and Qualitative Leucocytosis.

It is possible that the quantity and quality of the opsonic body in the blood serums may, in some way, be connected with the activity of the white blood-corpuscles in the blood, as in infective conditions there is almost invariably a rise in the number of leucocytes.

I estimated the leucocytosis, both qualitatively and quantitatively, daily in all the control cases and in seventeen insane

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cases during these observations. In two other insane patients the blood estimation was only carried out for three days prior to injection, but was performed for six days after.

In all cases the technique employed was the same. Blood for purposes of leucocyte estimation was obtained at the same time as that used for opsonic observations. No pressure was applied to the ear while blood was being withdrawn. An ordinary hæmocyte pipette was then filled to the mark 1 with blood, and the bulb filled to the mark 101 with ordinary leucocyte diluting fluid, ·3 *per cent.* acetic acid coloured with methyl green. The whole was then thoroughly mixed. For enumeration the slide of a Thoma-Zeiss hæmocytometer was used, care being taken that the drop on the slide was the correct size to fill the cell. The entire square was counted in three separate fields and the average calculated. The result, multiplied by 1,000, represents the total number of white blood-corpuscles in 1 c.mm. of blood. For convenience a movable stage was fixed to the microscope and the ordinary high power lens employed. Films for qualitative estimation were made on slides and stained with Jenner's eosine and methylene-blue stain. An oil-immersion lens was used for enumeration. Never less than 300 cells were counted. The total number of leucocytes per c.mm. of blood being obtained, and the percentage of each variety calculated, the total of each variety per c.mm. of blood was found, and all comparisons between the various varieties are made on the totals so obtained.

The following varieties of white blood-corpuscles were recognised:

(1) Polymorphonuclear leucocytes with neutrophile granules.

(2) Small lymphocytes; cells about the size of a red blood-corpuscle, with a deeply-stained nucleus which occupies nearly the whole of the cell, the perinuclear protoplasm being of very limited extent and staining with basic dyes.

(3) Large lymphocytes; cells larger than a red corpuscle, with a nucleus which stains less darkly than in the ordinary lymphocyte, the perinuclear protoplasm being well marked and staining with basic dyes. We also include under large lymphocytes the hyaline or large mononuclears, cells which vary from 8–12 μ in diameter. The nucleus is large and stains faintly. The cell protoplasm also stains very faintly with the basic dyes.

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(4) The eosinophile leucocyte.

(5) Mast cells with large violet granules.

The normal number of white blood-corpuscles and of the several varieties per c.mm. of blood varies within wide limits; but the usual total given is 7,000, with the different varieties in the following percentage: polymorphonuclears 70, small lymphocytes 20, large lymphocytes 8, eosinophiles 2, mast-cells ·5 to 1.

In the four male control cases the average total leucocyte count was 7,978; the percentage was: polymorphonuclears 56·2, small lymphocytes 32·1, large lymphocytes 9, eosinophiles 2·5, mast-cells ·2. This result is considerably below the number usually quoted for polymorphonuclears, but higher in lymphocytes. For the two female control cases the average was 7,817. The differential percentage was: polymorphonuclears 64·5, small lymphocytes 29, large lymphocytes 5·2, eosinophiles 1·1, mast-cells ·2. This percentage shows little change from that usually quoted. The average leucocytosis per c.mm. obtained in all six control cases was 7,824, the percentages being, polymorphonuclear 59·7, small lymphocytes 30·5, large lymphocytes 7·5, eosinophiles 2·1, mast-cells ·2.

The blood of seven female patients suffering from acute mental symptoms showed an average total leucocytosis for five days of 9,492, with a percentage of 66·4 polymorphonuclear cells, 25·5 small lymphocytes, 6·3 large lymphocytes, 1·7 eosinophiles, and ·1 mast cells. The total and the polymorphonuclear percentage are higher than those recorded for the two female control cases.

Three cases, also females, suffering from subacute mania, showed a considerable increase in their average total over that recorded in the control cases, the figure reached being 10,798, though the percentage of the different varieties of cell, polymorphonuclears 63·1, small lymphocyte 27·6, large lymphocyte 8, eosinophile 1·3, shows little difference from the control figures.

In six chronic cases, all females, whose leucocytes were enumerated daily, the total average was 9,881 with a percentage of polymorphonuclears 62·5, small lymphocytes 27·1, large lymphocytes 8·6, eosinophiles 1·5, mast cells ·3. The total number of white blood-corpuscles per c.mm. of blood in the female insane patients is slightly above the normal, but does

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not reach pathological limits. The percentage of each variety does not differ greatly from the control figures. In two cases of general paralysis, both males, the total leucocytosis was 10,705, with a percentage of polymorphonuclears 70·5, small lymphocytes 20·4, large lymphocytes 8·2, eosinophiles ·8, mast cells ·1. The total number of leucocytes is above the ordinary healthy level of the male, and shows a considerable increase on the total and also on the percentage of polymorphonuclear leucocytes found in the control cases. In one male chronic case the average total leucocytosis was 7,808, the percentage being, polymorphonuclears 65·3, small lymphocytes 21, large lymphocytes 9·6, eosinophiles 4, mast cells ·1. There is an increased proportion of polymorphonuclear and eosinophile cells, but otherwise little change from the control count.

After injection with $\frac{1}{500}$ mgr. T.R., three of the control cases showed an immediate increase in the number of leucocytes and reached their maximum of about 12,000, with 9,000 polymorphonuclears per c.mm. of blood by next day. The only other case injected with this dose showed no increase in the number of white blood-corpuscles till two days after injection, when a slight rise occurred. The maximum was reached on the third day. No negative phase followed injection in this case.

With the exception of the large lymphocytes, the other varieties of white blood-corpuscles followed a curve very similar to that of the polymorphonuclear cells. The large lymphocytes showed a considerable relative increase for one day at least, but this rise did not occur on the same day as the increase of polymorphonuclears. The increase in leucocytosis did not last for more than two days.

The seven cases with acute mental symptoms were injected with $\frac{1}{500}$ mgr. T.R. In two of these there was practically no leucocyte reaction. In one case the reaction was very slight and not beyond ordinary healthy limits. In the other four cases the number of leucocytes was increased, but in no case was the maximum reached on the day following the injection. In two the maximum leucocytosis was recorded on the second day after injection. In the other two cases the highest count was obtained on the fifth and sixth days after injection. The curve described by the total leucocytosis is closely followed by all varieties of cells, except in four cases, where there was

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an increased rise of large lymphocytes. The injection of tuberculin was followed by a negative phase in all the cases. Only one subacute case inoculated with $\frac{1}{500}$ mgr. T.R. was examined. There was no effect on the total leucocytosis produced, and the only variety in which any alteration occurred was the large lymphocytes, which rose from 1,110 per c.mm. on the day of injection to 1,300 per c.mm. the day following. A marked negative phase followed the injection, but no rise of leucocytes occurred during the succeeding rise in opsonic power. Two chronic cases injected with $\frac{1}{500}$ mgr. T.R. were examined for only three days prior to injection. In one of these the reaction was slight, the rise being complete the day after injection; but in the other case the rise occurred on the third day, the polymorphonuclear cells numbering 19,000 per c.mm. of blood. The reaction only lasted two days. Two cases injected with this dose, one acute and one chronic, showed evidences of old tubercular disease. Their curves were very similar. The day after injection there was a rise of 1,000 polymorphonuclear cells followed by a steady fall for four days. The only difference in the leucocyte reaction of the sane and acutely insane after a dose of $\frac{1}{500}$ mgr. T.R. is in the reaction time. The insane, as a rule, take longer to react, and their maximum leucocytosis is not reached so soon after injection.

Two control cases were injected with $\frac{1}{750}$ mgr. T.R. In one case there was no reaction, either in the quantity or quality of the leucocytes. The other showed a slight rise in total and also in polymorphonuclear leucocytes, the maximum being attained next day. There was a rise in the large lymphocytes per c.mm. the second day after injection.

Of the nine patients injected with $\frac{1}{750}$ mgr. T.R. whose blood was examined, one gave no reaction and two gave only a slight reaction, the maximum being reached next day. Each of the remaining six cases exhibited a rise of varying amount, but none reached the maximum level before the third day after injection.

The leucocyte reaction following the injection of tuberculin is, therefore, delayed in all forms of insanity. It has been observed also that after the subcutaneous injection of terebine for therapeutic purposes in the insane, the hyper-leucocytosis induced does not occur till at least forty-eight hours after

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injection, and in some cases seventy-two hours elapse before the maximum leucocytosis is obtained.

There appears to be no marked difference between the various classes of cases examined, as regards either quantity or quality of the leucocytosis produced after injection of tuberculin. The large lymphocyte cells showed a considerable relative increase compared with the other varieties of leucocytes, and this was especially marked in the more chronic cases. These were, for the most part, cases of adolescent insanity, and Dr. L. C. Bruce has found that this variety of cell is frequently increased in the various forms of insanity occurring at that period of life.

I have not been able to discover any constant relationship between the total leucocyte curve or that of any special variety of leucocyte and the opsonic curve, after injection.

Observations on the Urinary Excretion of the Insane Cases Before and After the Injection of Tuberculin.

The injection of old tuberculin produced constitutional symptoms with rise of temperature and increased metabolism.

I made an attempt to estimate any such change which might occur from the injection of Koch's new tuberculin T.R. For this purpose the urinary excretion of those patients who were confined to bed during the period these observations were being carried on was collected and examined daily.

A knowledge of the amount and quality of the food taken is necessary before any estimate of the amount of metabolism going on in the body can be arrived at by the examination of the waste products excreted. For this reason the diet of each patient whose urine was collected was carefully noted and weighed for a week before tuberculin was injected and for a week thereafter.

The albumen value of the food taken was estimated from physiological tables compiled by Haig. The urea value of the albumen ingested was fixed at one-third of the total albumen as stated by the same author.

The amount of chloride excreted is supposed to have a relationship to the amount of albuminous metabolism taking place in the body. The quantity of chloride ingested in the food and excreted by the urine was also estimated. A specimen

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of each article of diet was taken, and the amount of chloride estimated in a given quantity. A table of the chloride values of all varieties of food given was then drawn up, and from this table all chloride estimations were calculated. The urine excreted by each patient in the twenty-four hours was collected daily. A specimen of the whole twenty-four hours' collection was examined.

None of the patients received any drugs while these observations were being made.

The urea excreted was estimated in the usual way with hypobromite of soda and Southall's ureometer. The number of grains of urea per ounce of urine so obtained was multiplied by the number of ounces of urine passed that day and the total urea excretion estimated.

The amount of chloride excreted was estimated by Mohr's method. Ten c.c. of urine were taken and mixed with 100 c.c. of distilled water. A few drops of chromate of potassium solution were added. The mixture was then titrated with a decinormal solution of nitrate of silver until a pink colour appeared, the mixtures being well stirred during the operation. On the addition of the silver salt the chlorine combines with the silver, forming a white precipitate of silver chlorine. When all the chlorides are precipitated silver chromate goes down, but not while any chloride remains in the solution. Silver chromate is of a red colour, therefore the silver salt was added until a pink colour appeared throughout. To prevent error from the presence of other compounds in the urine, more precipitable than the chromate formed, 1 c.c. was subtracted from the total quantity of decinormal nitrate of silver used. Each c.c. of decinormal nitrate of silver used represents ·0058 grm. of sodium chloride. The number of c.c. of decinormal nitrate of silver used multiplied by this figure represents the weight of sodium chloride present in 10 c.c. of urine. The number of grammes of sodium chloride in the total urine excreted per day was then calculated.

As the amount of albumen and chloride taken in the food during any one day may not be excreted during the same day, the average daily ingestion and excretion of each was calculated for a week and comparisons of ingestion and excretion are made on the figures so obtained.

The average quantity of fluid taken per day was calculated

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from the total for the week, as was also the amount of urine excreted.

The ratio of the amount of fluid ingested to the amount of urine excreted remained fairly constant throughout, and did not affect the average daily excretion of chlorides.

No albumen or other abnormal constituent appeared in the urine of the cases examined during the time these observations were made.

Ten cases in all were examined; five of these were classified as suffering from acute mental symptoms and were injected with $\frac{1}{500}$ mgr. T.R. Each of these cases showed a loss of weight after injection, varying from 1 to 8 lb.

The case in whom the maximum loss occurred suffered from acute mania and had evidence of old tubercular disease of the lung. During the two weeks preceding injection she lost 3 lb. in weight; the same amount of loss occurred during the two weeks succeeding the termination of the observations, while during the intervening two weeks she lost 8 lb. in weight. The loss of weight was, therefore, greater during the two weeks immediately following the injection of tuberculin than during the same period either before or after that event. There was a considerable diminution in the amount of urea excreted after injection in this case. During the week prior to injection the daily average amount of urea excreted had been 28·9 gr. greater than the estimated urea value of the food ingested. During the week immediately following the injection of tuberculin the average daily excretion of urea fell 60 gr., and was 55 gr. less per day than the urea value of the food taken for the same period. In the second week after injection, however, the urea excretion reached its former level, so that, on the daily average, 22 gr. were excreted in excess of the amount ingested.

The excretion of sodium chloride followed a similar curve, and while ·9 grm. per day was being excreted in excess of ingestion during the week prior to injection, in the succeeding week ·75 grm. less per day was excreted than had been taken in as food. During the second week after injection ·78 grm. more than had been ingested was excreted. There was no increased restlessness or marked exacerbation of mental symptoms to account for the increased loss of weight after injection.

One of the cases lost 2 lb. during the two weeks follow-

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ing the injection of $\frac{1}{500}$ mgr. T.R., and showed no further loss of weight during the succeeding weeks. In this case the excretion of urea increased after injection, but not in proportion to the increased amount of albumen ingested. Before injection the excretion of urea per day exceeded the urea value of the food taken by 12 gr. In the course of the following two weeks, although there was an increase in the output of urea, there was a daily average diminution in the amount excreted compared with the amount ingested of 4 and 16 gr. per day during each of these weeks. There was a slight fall after injection in the excess of chlorides excreted over the amount ingested.

Two of the five cases injected with $\frac{1}{500}$ mgr. T.R. showed an increased excretion of urea as compared with the elimination before injection. One of these patients, who suffered from melancholia, lost 1 lb. in weight during the week before injection, but lost 5 lb. in the following two weeks. Before injection the average output of urea per day was less than the average amount taken in the food by 21 gr. The week after injection 20 gr. per day in excess of the amount ingested were excreted. During the second week after injection ingestion and excretion of urea practically balanced each other. There was no increased output of urea as compared with intake during the three weeks over which the observations extended. This patient gained 3 lb. in weight during the week after the observations were concluded. The other case who showed an increased output of urea only lost 1 lb. in weight. The urine was lost during the second week, but in that time there was a further loss in weight of 1 lb. Before injection the excretion of urea per day was 20 gr. less than the amount ingested. While the amount ingested was the same during the following week the quantity excreted per day increased and exceeded the value ingested by 40 gr. The excretion of chlorides also increased, so that while before injection excretion was slightly less than ingestion the following week excretion slightly exceeded the amount taken in.

In the fifth case injected with $\frac{1}{500}$ mgr. T.R. the average output of urea per day for the week preceding injection was 52 gr. in excess of ingestion. No alteration occurred during the succeeding week. There was a marked increase in the excretion of chlorides, however, for while there was no alteration in the amount ingested during the weeks before and after

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injection the excretion increased during the latter week, so that the excess over ingestion was raised from ·86 grm. per day to 4·34 grm. per day.

In all five cases injected with $\frac{1}{500}$ mgr. T.R. a loss in weight occurred during the week immediately following injection.

After injection two cases showed an increased excretion of urea as compared with the urea value of the food taken. Two showed a diminution, while one showed no change in the relative amounts ingested and excreted.

Two cases showed an increased excretion of chlorides as compared with the amount ingested. Two showed a diminution, while in one case no change was observed.

No definite result can therefore be arrived at as to the effect produced on the metabolism of insane patients by the injection of $\frac{1}{500}$ mgr. of tuberculin.

Five of the cases whose urine was examined received an injection of $\frac{1}{750}$ mgr. T.R.

Three of these were cases of general paralysis, and in none of them was any alteration in weight recorded while under observation. In all three cases, during the week prior to injection, the average daily excretion of urea was greater than the urea value of the food ingested. In two of the cases during the week succeeding the injection the daily excretion was a few grains less than the estimated amount ingested; but in the course of the following week the daily output was greater than the amount taken in. Both of these patients had formerly suffered from tubercular disease of the lung. In the third case of general paralysis examined the excess of urea excreted per day was slightly increased. In all three cases, before injection, the daily excretion of chloride was less than the estimated amount ingested. This difference between excretion and ingestion was increased during the first week following injection.

The other two patients, injected with $\frac{1}{750}$ mgr. T.R. during the week before injection, were excreting less urea per day than the estimated amount ingested. During the following week the amount of urea excreted in excess of the urea value of the food ingested per day was considerable. Before injection both were excreting less chloride than they were ingesting. In the course of the succeeding week, in one case the difference between intake and output was increased, while in the other

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the daily excretion of chloride exceeded the amount estimated to have been taken in food. This latter case gained 3 lb. in weight during the week following injection, but this may have been due to rest in bed. The other case gained 2 lb. in the same time.

All three cases with evidences of former lung disease had a diminished daily excretion of both urea and chlorides after the injection of tuberculin, compared with the amount of each ingested.

No very definite conclusions can be drawn from these observations.

Observations on the Mental Symptoms produced in the Insane after the Injection of Tuberculin.

It has been frequently noted that an acute fever, a local inflammation, a crop of boils, a septic poisoning, has cut short and even cured an attack of insanity. To obtain the same result, severe blistering was formerly resorted to. The treatment of insanity by the administration of large doses of thyroid extract, as recommended by Dr. L. C. Bruce, produces very much the same effect, while the remedy is under the control of the physician using it. Wagner, of Vienna, got very beneficial results in many cases of insanity by giving large doses of Koch's old tuberculin.

The doses of both remedies used produced constitutional symptoms such as rise of temperature, increased pulse-rate, and sweating, in all the cases where benefit resulted from the treatment. The production of fever with increased metabolism would therefore seem to be the cause of the improvement and not the specific action of the drug.

The mental symptoms were noted in all the cases injected with tuberculin by me.

There was no difference produced in the mental state of any of the patients injected with $\frac{1}{760}$ mgr. T.R.

Seven acute cases were injected with $\frac{1}{600}$ mgr. T.R. In two no mental effect was produced. Three cases showed aggravated mental symptoms. One of these on admission had been restless, noisy, singing snatches of songs, or talking almost continuously. Her remarks were quite incoherent. She had no interest in what went on around her, was lacking in attention,

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and her habits were defective. Before injection she had been quieter, resting in bed, and not noisy. She could tell her name when asked. The day after injection with $\frac{1}{500}$ mgr. T.R. she was noisy, singing and talking by turns, rolling about in bed, and paid no attention to what was said to her. She could not give her name, and was absolutely incoherent. This condition lasted two days, when she became quieter and passed back to the condition she was in before inoculation. One case of mania with confusion was brighter and more talkative on the day following injection, but next day was again confused. A third case was irritable, inclined to be impulsive, obstinate, and sullen after injection. During the days preceding the injection she had been quieter and more contented than since her admission.

Two melancholic cases showed signs of mental improvement after injection. One of them, who had not spoken for days before injection, spoke quite clearly and answered questions, though slowly, the day following injection. The second day she was not quite so bright, and by the third day she had relapsed to the condition she was in prior to injection. The other case of melancholia occupied a corner bed in the ward. She lay with her face to the wall, refusing to speak, and wept at times. She resisted all movement. The day after being injected she sat up in bed and answered questions slowly and in a very low voice. The improvement did not persist in this case for longer than four days.

One subacute case injected with $\frac{1}{500}$ mgr. T.R. showed a mental reaction. This patient had been resident in the asylum for over a year. She suffered from acute mania on admission. Before injection she showed marked symptoms of mental enfeeblement. Her movements were slow, her sensibility dulled, and her mental reaction delayed. Her emotions were blunted, and she hardly spoke to her children when they visited her. The day following injection she was brighter, talked more freely, and was more acute mentally. The next day she was more talkative and passed remarks on anything which attracted her attention. She did not sleep well, however, that night, was restless, getting out of bed, and she had hallucinations of sight and hearing. She developed delusions of identity, recognising in some members of the staff of the institution old acquaintances, and talked to them of incidents which had occurred years

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before, but of which they knew nothing. The delusions persisted for a few days, although the patient became less talkative, and by the eighth day after injection was in practically the same mental condition as before inoculation.

The dose administered was not sufficient to produce any rise of temperature or increase of pulse-rate. Neither did it cause any constitutional symptoms, and the mental effects produced by the injection were neither definite nor lasting.

Of the Onset of Melancholia. By R. R. LEEPER, F.R.C.S.I., Medical Superintendent, St. Patrick's Hospital, Dublin.

OUR present-day conceptions as regards the causation of melancholic states are largely based upon the theory that an auto-toxine is the cause and producer of many of the symptoms of the disease of melancholia; the idea is as old as the fathers of medicine, the very name of the disease testifying to the fact that from time immemorial defective organic function was recognised as a cause of this diseased condition.

The excretions have been diligently and most minutely examined and analysed with the object of isolating this toxine, the supposed cause and source of anguish to men's souls. One could make a very long list of the insanities said to be due to an excess in the system of the various normal substances found in the excretions by the physiological chemist.

As yet I am unaware of the discovery of a melancholic microbe, but doubtless we shall hear of him, and I trust that whenever his recognition occurs that this discovery will be promptly followed up by some such decisive measures as have been used in the prevention of the production of the malaria parasite, and let us hope that future generations may be enabled to rid the world for ever and utterly annihilate and destroy the, at present, suppositious microbe of melancholia in its natural matrix—the slough of despond.

In the old register of St. Patrick's Hospital one reads of patients described in the quaint language of the eighteenth century as "unhappy lunatics"—surely no bad name for the melancholiac—and as this disease is the most distressing to witness and the most anxious and difficult to treat of the

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many forms of mental unsoundness one has daily to deal with, I have decided to put some thoughts of mine before you.

Let us call to mind a case of acute melancholia occurring in one's practice. We find such a patient has almost invariably a neurotic or insane heredity as a predisposing cause of the illness; next, we generally find him physically debilitated. He or she has been subjected to some sudden grief, some mental shock, some sudden plunge into poverty or its apprehension. This is the soil, these are the fertilisers which may cause an outburst of melancholia.

As each one in life experiences sudden shock, griefs, fears, and apprehensions, which, when experienced, are reasoned with and met with whatever mental powers we possess, so the unfortunate about to become the victim of melancholia is overcome by some imperative conception of woe, some fixed depressing belief becomes crystallised in the sensorium, and from this he falsely reasons through his illness in the feral condition of crucifying his soul in this life, and possibly haunted by the gloomy prospect of eternal damnation in the next.

In the acute cases to which I intend to briefly refer I wish to draw your attention to this imperative initial conception, this sudden depressing belief which heralded the melancholia, because I think that such a symptom is not without interest in considering the auto-intoxication theory of the production of this disease. In the cases I am about to mention this sudden, depressing, overwhelming belief immediately heralded the melancholia and caused the disease to be recognised, and I therefore fancy not wholly inappropriately gave to this mental state the name of the "stage of psychical rigor," which marks the period of the time of the invasion of the disease. How can we define this period, and what are the physical signs which herald and accompany it?

Such patients have usually an abnormally high arterial tension. If such a condition be marked and co-existing with other suspicious symptoms, one is bound to look upon the case as one of grave danger. I have at present under my care a mild case of melancholia. He is perfectly sane and happy for days at a time, sleeps and eats well, when he suddenly becomes agitated and exciting by the depressing belief that he will never recover and will suffer from some incurable disease. His normal pulse-tension is 110 Hg., as estimated by the modified

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Riva-Rocci. Just when he has one of his melancholic seizures he runs up to 140 Hg. or higher. And as soon as the arterial tension falls he seems to lose his anxieties, and to become again calm and self-controlled and sensible of his insane fancies being unreal and absurd. In forming an opinion as regards the mental state and possibility of an attack of melancholia supervening upon an ordinary "fit of the blues," an examination of the condition of blood-pressure at different intervals during the day may be a means of helping us as regards the prognosis of the case. Undoubtedly a high and continuously maintained abnormal blood-pressure would go far to prove that the patient was in for an attack of melancholia or dangerous depressive state. The information obtained by the sphygmomanometer would also help us by influencing our early treatment. I have been told by a distinguished professor of physiology that no drug will reduce blood-pressure as speedily as fresh air and exercise, but these very simple remedies are often very difficult to secure for a patient in the early and home treatment of a man, say, overwhelmed by anxieties, and whose livelihood may depend upon his spending hours and days in offices and harassed by business anxieties and want of physical exercise. Unfortunately medical aid is seldom sought until this initial stage has passed and my stage of "psychical rigor" has been reached.

Here is a case in point:

A medical man with a bad heredity led a very lonely home life after the death of his wife. His practice entailed the drudging and hardships essential to the calling of the active practice of medicine in a poor locality. He had managed to rear his family in respectability and comfort by a hard struggle, and this struggle had been successfully got over. His practice fell off from natural causes; his neighbouring brother practitioners did worse for a while than he did, nevertheless he suddenly was seized with the fear of his being a pauper, that dire poverty was upon him. This fear attacked him, he states, suddenly. When in his house he used his telephone to communicate with his solicitor who looked after his monetary affairs and collected debts for him; unfortunately the lawyer was out. This was the state which I have called "psychical rigor" from which the true melancholia dated. His next action was to swallow a large dose of a virulent poison from

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the effects of which his life was saved with great difficulty, and he passed into a condition of acute melancholia with more or less fixed delusions that he was ruined and could never again free himself from pecuniary difficulties or practise his profession. He recovered within a twelvemonth, and is now again in practice.

My next case is that of an accountant in a large mercantile firm, æt. 22. He had to post up difficult account books, which he always did most accurately. He studied art in his off time, and was most passionately fond of drawing, to which he devoted his evenings in a technical school after his day's work was over. He ate little and worked hard, and upon returning home one evening he told his family that he had devoted too much time to his study, that great mistakes would be found in his books and defalcations, and that he was ruined. This was his period of "psychical rigor." His books were found to be perfectly in order, and the poor man was sent to an asylum a day or two after his return from the last visit to that office where his artistic soul had long warred with the drudgery of his life. He got slightly better in the private asylum where he was sent to, but quickly relapsed, and was admitted to St. Patrick's Hospital. On admission it was found that he suffered from a number of small boils and pimples on his back. A large sore formed on his neck and another on his cheek, and as there was reason to suppose he had contracted a septic infection cultures were made from the pus of the sores, when it was found that the pneumococcus was the organism present. As the sores were nearly healed when this discovery was made we await any re-appearance to use the proper serum in this case. His present mental state is one of intense melancholia with stupor.

My third case is a very distressing one. A young professional man, after passing his final professional examinations, went on what is popularly known as "a spree," and contracted syphilis; he consulted his family physician upon the advent of the Hunterian chancre, who told him he had contracted venereal disease. He immediately rushed off to a leading surgeon, who confirmed the diagnosis. He there and then became acutely melancholic, said he was ruined in this world and the next. With the diagnosis of syphilis the psychical rigor stage was reached, and he became actively suicidal, and tells me "his

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very bones are full of misery." After treatment with thyroid extract and other ordinary methods he has recovered and been discharged.

My fourth and last case, which I wish to mention, not because it is the last presenting this symptom of imperative conception, but for fear of wearying you, as one of peculiar interest.

A lady, who nursed her husband with great devotion through a long and fatal illness. During her married life she had no financial cares or anxieties; but upon her husband's death the management of a large estate fell upon her at a time when she was feeble in health and much depressed by her widowhood. A relation called to assist her in managing her affairs, and she went upstairs to get the books and papers necessary. There she was overcome by the sudden belief that she had squandered her money and was the cause of the ruin of her name and family. She swallowed a large dose of a poisonous liniment which she found alongside the account-books in her room, and the stage of psychical rigor was followed by this suicidal act, which, fortunately, had not a fatal result, but marked the invasion of an attack of agitated melancholia. Her urine, on admission, was found to contain indoxyl, and invariably gave a colour reaction to the test employed. After the bowels had been carefully regulated this reaction ceased, and in this and other cases we have found that indoxyl is present only in those cases of melancholia where there is much constipation, and that when this is remedied the indoxyl disappears from the urine, and that no marked change occurs in the melancholic state. Her blood-pressure was abnormally high. Galen says: "It is vain to speak of cures or think of remedies until such time as we have considered of the cause." If melancholia be produced by auto-intoxication, then this toxine or toxines must so weaken the mind that imperative conceptions spring up, marking the period of invasion when the disease, by producing insanity, becomes recognisable. Whether vaso-motor disturbances are produced thereby, or whether these of themselves are capable of producing this disease, it is abundantly evident that physicians should be more frequently consulted than they are in cases of mental depression in their initial stages, and we should, so far as we are capable, shield patients from undue stress whose nervous

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organisations are unstable, and in whom one has reason to suppose that defective phagocytosis or auto-intoxication is present or likely to arise.

In these days, when the increase of lunacy seems at times to cause some alarm to the nation, and even to be a subject of much interest to the public for brief periods, it is very astonishing to find how little, if any, effort is made to combat and prevent any of the well-known and every-day causes of mental disease.

Statistical Notes on Criminal Lunacy in the Punjab Asylum. By Major C. J. ROBERTSON-MILNE, I.M.S., M.B., C.M., Medical Superintendent, Bengal Central Asylum.

ON March 31st, 1906, there were in the Punjab Asylum 591 patients of both sexes; of these no fewer than 121 were criminal lunatics. This proportion seems very high, but it is less than in most of the other provinces of India, as a reference to the following table (Table I) will indicate. I have added the figures for two British colonies and for England for comparative purposes.

TABLE I.—*Showing the Relative Numbers of Civil and Criminal Insane Confined in the Asylums of British India* (1904).

Province.	Civil insane.		Criminal insane.		Total insane.	Total criminal insane.
	Male.	Female.	Male.	Female.		
Bengal	393	138	495	75	1,101	570
Assam	82	25	53	5	165	58
Burma	194	39	198	17	448	215
Madras	320	131	121	14	586	135
Bombay	552	166	101	17	836	118
Central Province	143	67	73	7	290	80
United Provinces	641	257	249	36	1,183	285
Punjab	354	105	107	10	576	117
India	2,679	928	1,397	181	5,185	1,578
Cape Colony (1904)	1,023	764	62	11	1,860	73
Jamaica (1904)	—	—	—	—	1,240	82
England (1905)	54,475	64,442	694	218	119,829	912

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TABLE II.—*Detail of Civil and Criminal Insane in the Punjab Asylum on March 31st, 1906.*

Civil insane.		Criminal insane.		Total insane.	
Male.	Female.	Male.	Female.	Male.	Female.
355	115	109	12	464	127

Apparently the chief reason for this comparative preponderance of criminal lunacy in India is the fact that the majority of the insane population are kept in their village homes by their friends; it is only when they either come within the clutches of the law as having committed crimes or have become homeless vagabonds and a danger to the public that they can be confined in an asylum. The law in India states that only those persons who can be declared dangerous to themselves or to others, or those who are wandering about without proper guardianship and unable to take care of themselves, are to be sent to asylums. These rulings would appear to have been strictly adhered to. It ought to be observed also that the undeserved stigma attaching to the name "asylum" is as great in India as elsewhere. The friends of the insane consequently prefer to keep them outside as long as possible. The opening of the new central asylums has, to a slight extent, induced some to bring their afflicted friends for treatment, but the bulk of our patients are those who have come in under magisterial orders in accordance with the provisions of the lunacy acts.

It is to the criminal insane, however, that I wish to draw attention, and I have accordingly prepared the following analytical statement of criminal lunacy as I have found it in the Punjab Asylum.

Official Classification of the Criminal Insane.

In India the criminal insane are confined in gaols or asylums under one or other of three sections of the law, and consequently there are three classes into which they are divisible. These are simply known as Classes I, II, and III.

Class I includes those persons who, being accused of having committed serious crimes at an inquiry held by the magistrate, before whom they have been arraigned, are found incapable, after due observation and certification by a medical officer, of either understanding the nature of the proceedings against them or of making a defence; in other words, they are reckoned as

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unfit for trial. Their cases are then remanded under Section 466 of the Criminal Procedure Code for the orders of Government. The lieutenant governor, when these cases are brought before him and approved of, then issues an order through one of his chief secretaries, under the same section of the law, authorising the detention of the accused in an asylum until they are declared fit to stand their trials or until further orders.

In Class II are those who, having been tried for their crimes and found guilty, are declared to have been insane at the time of the crime and unable to realise its nature and its effects. They are then "acquitted on the ground of insanity"; if the crime has been a minor one they may then be discharged on the security of their friends; but if the crime has been a major offence the judgment of the case is transmitted to government, who, after the due consideration of the case, issue an order for the detention of the accused in a provincial asylum until further orders under the provisions of Section 471 Criminal Procedure Code.

Class III comprises those who, having been convicted of crimes and sentenced to various terms of imprisonment, have become insane while in gaol. These are transferred to asylums only by an order of the local government, and the authority for this transfer is contained in Section 30 (i) of Act III of 1900.

The following table shows the official classification of the 121 criminal lunatics in the Punjab Asylum.

TABLE III.—*Official Classification.*

Class.	Male.	Female.
I	38	4
II	46	5
III	25	3
	109	12

General Social Particulars of the Criminal Insane.

Of the men 68 are Mussulmans, 40 are Hindus, of whom 4 are Sikhs, 6 are Brahmans, while the remainder belong to various castes. There is one doubtful personage, a man with

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an English name who is probably a native Christian. Of the women 7 are Hindus, while 5 are Mussulmans.

The majority of the men and all the women hail from the Punjab, the North-West Frontier Province, or the Western Rajputana States. There are 3 Afghans, 2 Kashmiris, and 2 Hindus from the United Provinces.

With regard to districts, the greatest number—13—have come from Rawal Pindi; Peshawar and Delhi have each sent 10, Lahore with 8, Amritsar with 7, Ambala, Multan, and Dera-Ismail-Khan with 6 come next. The districts showing the smallest numbers are Jullundur, Hissar, Jhang, Kangra, and Mianwali. No district at present enjoys the distinction of not having a criminal lunatic in the asylum.

Classifying the men according to occupations, there are 43 cultivators or agricultural labourers, 19 beggars or fakirs, 5 shop-keepers, 4 sepoys from the native army, 2 Government clerks, 2 railway employees, and 1 police-constable, while the remainder, with 12 exceptions, belong to various trades. The 12 exceptions are those in whom no previous occupation can be ascertained. Of the women, 1 is a labourer, all the others being domestically employed in their own house.

The Crimes Committed by the Criminal Insane.

TABLE IV.—*The Crimes committed by each Class.*

Crime.	Class I.	Class II.	Class III.	Total.
Murder and culpable homicide	20	38	19	77
Attempted murder	2	5	1	8
Abetment of murder	1	—	2	3
Grievous hurt	6	3	—	9
Suicide (attempted)	2	—	—	2
Kidnapping	—	—	1	1
House trespass	1	1	—	2
House-breaking	—	1	—	1
Theft and robbery	6	2	2	10
Mischief by fire	—	1	—	1
Failure to give security	—	—	3	3

It will thus be seen that out of 117 criminal insane no fewer than 77, or nearly 66 *per cent.*, have actually committed murders. Eight of them have attempted to murder, while three

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have abetted murders. Two of the latter crimes were particularly brutal and revolting: in one instance a woman held her daughter-in-law's limbs while her son strangled his wife; in the other, an unprincipled son hired a band of ruffians to kill his father and assisted them in the deed. Many of the cases of grievous hurt almost amount to attempts to murder.

Of the women eight committed murders; two of these killed their husbands, and six their children. One woman abetted her daughter-in-law's murder, as noted in the previous paragraph, two committed thefts, while the remaining female criminal had kidnapped a female child to sell her for immoral purposes.

In 38 of the murders the victims were related to their assailant, and the following table gives the degree of relationship in these cases, and general particulars of the remaining 43.

TABLE V.—*The Victims in the Murder Cases.*

Relatives, 38.		Other than relatives, 38.		Details unknown, 5.	
Father	1	Men	19	Relationship, etc., unknown	5
Mother	3	Boys	6		
Sister	2	Women	7		
Brother	1	Girls	4		
Husband	2	Mullah (priest)	1		
Wife	12	Asylum (patient)	1		
Son	3				
Daughter	6				
Grandson	1				
Uncle	1				
Niece	1				
Cousin	1				
Sister-in-law	1				
Son and daughter	2				
Wife and mother	1				

This table is comparable with Table IV of Dr. Nicolson's article on criminal lunacy in England in Clifford Allbutt's *System of Medicine*, vol. viii. It will be seen thus that out of 190 English male criminal insane who had committed murders, twenty-eight had killed their wives, and three wife and children; in the Punjab Asylum, of the 73 insane male murderers twelve killed their wives and one his wife and

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his mother. Only six women and five men killed their children. At Broadmoor the proportion of parents who have killed their own children is very much higher. The number of instances in which relatives have been killed by the insane is also greater in England.

It ought to be observed that the Punjab figures refer only to the primary murders. Two male patients in Class I, originally indicted for murder, have killed other patients in the asylum since admission; two of those in Class III killed fellow-convicts in gaol after detention there for their previous murders. All four were dangerous homicidal maniacs; one of them, the oldest criminal in the asylum, was admitted in 1881, having killed his sister with a hatchet in the previous year; he was then a dangerous maniac and continued to be regarded thus for several years. In October, 1883, he was, by error of an attendant, shut up in a room with another patient for a night and was found in the morning to have killed and partially eaten the other. He is now a quiet dement.

An interesting statement results if we compare the English figures with those of the Punjab as regards the psychological genesis of the crimes committed.

TABLE VI.

Propensity in criminal activity.	Percentage of cases. Punjab.	Broadmoor.	Dominant mental origin.
1. Violence to person or property	88	86	Malice.
2. To sexual acts	0	5	Lust.
3. Thieving, fraud, etc.	12	9	Acquisitiveness.

The absence of criminals in the second class in this country will be remarked. The different standards of morality prevailing in the two countries explains this to a certain extent.

The practice of unnatural sexual acts is, for example, not considered either vicious or criminal by certain classes in the Punjab. Every Pathan and many of the other Punjabis in the asylum, especially those suffering from mania, endeavour at every conceivable opportunity to indulge in them. The suppression of this is one of our most difficult problems and I personally doubt whether, in this, our attendants can be relied upon to help.

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In the next Table, No. VII, the main types of insanity presented by the Punjab criminal insane will be found classified.

In Table VIII there is further subdivision of the cases of mania.

TABLE VII.—*Types of Insanity among the Punjab Criminal Insane.*

Mania	80
Melancholia	27
Dementia	6
Imbecility	1
Sane, malingering, doubtful	6

TABLE VIII.—*Subclassification of Cases of Mania.*

Acute or chronic mania	41
Epileptic mania	7
Toxic mania (hemp drugs)	12
Delusional mania	9
Moral mania	1
Puerperal mania	1
Homicidal mania	8
Alcoholic mania	1

The cases of acute or chronic mania, which form half of the total number, are those whose ætiology is obscure and who present no distinguishing feature in their symptoms. Some, indeed, are probably cases of mania due to hemp drug indulgence.

The epileptic cases call for no comment; their proportion to the epileptic insane in the asylum is about 12 *per cent.* The case of moral mania is an interesting example of a man who can best be described as being insanely vicious. He is a tall, powerful Punjabi Mussulman with a low type of head and face, thick, deformed ears, and thick lips. He is covered with scars of previous encounters. He was originally an habitual thief and dacoit. In the asylum he helped to murder an unfortunate patient who had refused his advances. He has no idea of right or wrong; these are only measurable to him in the light of punishment or reward. He is a vicious bully, the terror of his section. He can work well when he chooses, and

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is our champion weaver; but he generally prefers to play cards or indulge in vicious talk.

Four of the eight homicidal maniacs continue to require constant supervision. One is a man who has not spoken for fourteen or fifteen years, but who is possessed of an intense desire to kill. He has manufactured lethal weapons out of pieces of tin and nails brought to him by other patients, and with these he has frequently attempted to attack attendants and others. Another homicidal maniac killed a man with whom he had a trivial quarrel after they had both been drinking "bhang" at a shrine; he seemed quiet enough on admission, but some months after he had been here a patient was found beaten to death in a remote corner of the criminal section, and evidence pointed to this man as being the murderer. The victim had, it turned out, selected the place of daily retirement which this maniac considered his own. Hence the occurrence! It is really marvellous that we do not have more such serious crimes in this asylum. Pathans and Punjabi Mussulmans are exceedingly irritable and easily enraged; they possess when sane but little regard for human life, as their constant blood feuds show; it is still less when they are insane.

The solitary alcoholic maniac is a case similar to those described by Clouston as "mania a potu"; he is a weak-minded Dogra whose crime was "mischief by fire." He set fire to his neighbour's rice store when suffering from the effects of an alcoholic bout.

The interesting cases of mania are, however, those labelled "toxic," and resulting from indulgence in the preparations of canabis sativa v. indica. The preparations in common use in the Punjab are "bhang," which is a cold decoction of the leaves and capsules of the male and female plants, and "charas," which is the resinous exudate from the female flowering tops. Charas is smoked along with tobacco and sometimes eaten. The following are short records of those cases in which the insanity and the crime were definitely attributable to excess in these deleterious products:

CASE I.—S. A—, a Mussulman sweeper from Hoshiarpur, murdered his wife by beating her on the head with a large stone. It was proved at the inquiry that S. A— had been for years an inveterate hemp smoker, constantly in the society of those who thus indulged. A chronic maniac now becoming demented.

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CASE 2.—M. S—, a Sikh of Amritsar, notorious for his indulgence in "bhang" and "charas"; a case accepted by the Hemp Drugs Commission. While in a state of mania, as the result of his indulgence, he attempted to assault a sessions judge with an axe.

CASE 3.—S. G—, a Hindu Brahman from Karnal, who had become a fakir, and was proved at his trial to have indulged deeply and frequently in "charas." In September, 1904, he pushed a boy, who had refused to give him "charas," into a well, 24 ft. deep, from which the lad was with difficulty rescued. He was found unable to make a defence and remanded. A weak-minded, foolish, stupid man, whose behaviour and speech is that of a child.

CASE 4.—P. S—, a Hindu kahar from Amritsar, murdered his wife in a fit of intoxication following "bhang" drinking, to which he was proved to be addicted. His mental condition is now one of weakmindedness.

CASE 5.—E. D. N—, a Pathan of the Peshawar district, formerly a sepoy in the 27th Baluchis; a confirmed charas smoker. Discharged from the army on account of his indulgence in charas, which had rendered him weakminded and frequently maniacal. In December, 1900, while in a state of charas intoxication he fired four shots with a revolver at his wife, but missed her and wounded his mother-in-law. He is now, after six years' abstinence from the habit, fairly sane.

CASE 6.—D. D—, an old man, a Hindu shopkeeper of Jhelum, who was proved in court to have indulged in drugs, "bhang," "charas," "opium," for some time, and to have become altered in consequence, was indicted for having killed one boy with a club, and attempted to kill three others. He is fairly sane, but liable at intervals to fits of curious excitable depression, in one of which he recently attempted suicide by beating his head against a wall.

CASE 7.—S. B—, a Hindu sweeper from the Hoshiarpur district, who killed his wife in 1898, and who was proved at the inquiry to have been under the influence of charas at the time, and then declared unfit to stand his trial. He improved, and was tried after three years' residence in the asylum and acquitted. He was now a dull, foolish, weak-minded man.

CASE 8.—B. G—, a Mussulman, who, while intoxicated with "bhang," threw his sister's child from the roof of a house to the ground, killing her instantly. This was in 1894. He was sane on admission, and has remained so except for a mild attack of mania in 1900.

CASE 9.—S. S—, a Pathan beggar, well known for his addiction to bhang and charas; on October 22nd, 1899, he strolled into the house of a woman, picked up her infant son, carried him across the road and dropped him into a well. He furnishes another example of weakmindedness following indulgence in Indian hemp.

CASE 10.—P. I—, Brahman beggar from Sialkot, who was entered in 1897 in the police registers as a bad character, given to indulgence in

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drugs (charas, etc.). In 1898 he strangled his wife with a turban when she was asleep. Sentenced to transportation, but afterwards found to be insane. His condition is one of chronic mania.

CASE 11.—K. N—, admitted in 1893, having, without provocation or motive, killed a man. History of indulgence in charas. In a state of sub-acute mania on admission; continued thus for some years, and is now becoming gradually demented.

CASE 12.—S. S. H—, while intoxicated from bhang drinking, in which he indulged daily, attacked his wife with an axe. A garrulous, chronic maniac.

Of the crimes committed by these 80 cases classed as maniacs, 57 were murders, 2 abetments of murder, 9 cases of grievous hurt, while 6 were thefts. The thefts were, in four of the six cases, of a curious character: (1) Church ornaments from a Catholic church valued at £1; (2) three annas (three pence) worth of potatoes and two grave-stones; (3) two dogs; and (4) a camel.

Twenty-three of the twenty-seven melancholiacs are ordinary acute or chronic cases. In three, delusions are extremely prominent, while the remaining man is an epileptic.

Fifteen of the melancholiacs were murderers; the crimes of the remainder were either grievous hurt, attempted suicide, house-trespass, or theft.

Four of the six cases of dementia certainly presented that condition on admission. One, an old man, had murdered his step-grandson; two had committed the offence of house-trespass; while the fourth robbed a child of her silver ornaments. The two remaining cases are men admitted as criminal lunatics of Class I, having committed murders more than twenty-five years ago; both were possibly cases of mania originally; both have been demented for many years. It should be added that several of the cases of mania and one or two of those of melancholia are on the high road to dementia.

The solitary imbecile was found in possession of a bullock. He is congenitally defective, and his case has been represented to Government with a view to his being handed over to the custody of his friends.

Of the six cases classed as doubtful, three had been so recently admitted that a diagnosis of their mental condition could not be made. Investigation has since shown them all to be cases of mania. Of the remaining cases two are certainly

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malingerers, while I am inclined to think that the third also falls under this category.

I have recently represented to the Governments of the Punjab and of India the need which exists for a special criminal asylum, and I understand that the project is being considered.

In conclusion, I must express my indebtedness to Dr. Nicolson's exhaustive article on "Criminal Lunacy in England," contained in vol. viii of Allbutt's *System of Medicine.* It was the perusal of that article which prompted the above short study.

Recent Medico-Legal Cases.

[The Editors request that members will oblige by sending full newspaper reports of all cases of interest as published by the local press at the time of the assizes.]

The Thaw Case.

This case, which has excited more interest, both in America, where it occurred, and in this country, than any case that has been tried for some years, has been the subject of two trials. The first, which took place in the early part of last year, and was spun out to an intolerable length, ended in the disagreement of the jury. The second trial, which was much more business-like, and which, perhaps on that account, attracted much less attention, ended in an acquittal on the ground of insanity; such a verdict being still possible in New York, though it is no longer a part of the law of this country.

The facts of the case were as follows:—Thaw and his wife went, on the 25th June 1906 to a theatrical entertainment at a "roof garden" in New York. Here they met friends with whom Thaw conversed long and rationally. As they were leaving in a party, Thaw left the party, walked over to where Stanford White was sitting, placed a revolver to his head, and fired three shots, two into his head and one into his neck, upon which White fell dead on the floor. Thaw then coolly gave himself up to the police. Before doing so, he kissed his wife and said, "It is all right, I have probably saved your life." When charged, he admitted the crime, and asked for a match to light his cigar.

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It was alleged at the trial that Stanford White had, years before the marriage of Thaw, seduced by means of drugs, and under very heartless circumstances, the girl, then only 16, who subsequently became Thaw's wife; that White either was in the habit of seducing girls in this way, or was believed by Thaw to be so. That Thaw was constantly getting his wife to repeat the nauseous story of her seduction, and would get very excited when he heard it; and that he betrayed a constant and bitter hatred of White; believed White was injuring him socially, by keeping him out of clubs and so forth; and that a great part of Thaw's time was occupied in talking and thinking about the alleged villianies of White.

It was proved that one of Thaw's maternal uncles was insane; another a congenital imbecile; a paternal aunt epileptic; that Thaw had chorea as a child, and was always of a "highly nervous temperament," slept badly, and so forth.

Several experts were placed in the box for the defence, and to each of them was put a "hypothetical question" of enormous length, running to 39 p.p. of octavo print, and containing a complete history of the crime and of Thaw's career, his relations with White, the alleged seduction of Mrs. Thaw, and a great deal more; and upon this question the witness was asked, "In your opinion was H. K. T." (the initials by which Thaw was designated throughout the question) "labouring under such a defect of reason that he did not know the nature and quality of his act, or that that act was wrong?" The question was in each case allowed by the Court. Dr. Hammond answered "He was labouring under such a defect of reason." Dr. W. A. White answered in the same sense. Dr. S. E. Jelliffe answered that Thaw "did not know in the legal sense that the act was wrong, and he was suffering from a defect of reason." Pressed as to the difference between the insane knowledge Thaw had of his acts and ordinary sane knowledge, he said, "It differs in many respects. It differs largely in the motives; in the manner of its execution; it differs in the manner of choosing the time and place of the act; and it differs very largely in the act that precedes it. It differs very largely from the acts that come after, very much." The report purports to be a *verbatim* report; but it is difficult to believe that the witness gave such an answer.

All three witnesses were asked what precise kind of insanity

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the prisoner exhibited, and none of them was able to give a precise answer.

Dr. Austin Flint gave it as his opinion that Thaw was at the time of the trial and at the time of the crime insane and suffering from paranoia, but that "his mental state was such that he knew the nature and quality of the act he was doing, and that it was wrong . . . and that he then and there knew that such act on his part was against the current morality of the people of the State, and in violation of laws" and that Thaw "is now and for some time past has been in such a state of lunacy or insanity as to be incapable of understanding the proceedings against him or making his defence." Dr. W. Mabon and Dr. Carlos F. Macdonald gave evidence identical with that of Dr. Flint.

At this point Counsel for the prosecution moved for a lunacy commission to inquire into the state of the prisoner's mind, prefacing his application by an account, which seems to us extraordinary, of his personal conversations with the expert witnesses for the defence! The judge granted the application, and appointed a Commission of three, to investigate the state of the prisoner's mind at the time of the investigation, and report whether he was "capable of rightly understanding his own condition, the nature of the charges against him, and of conducting his defence in a rational manner." The Commissioners were two of them lawyers—one an ex-judge—and one doctor, who, it appears, was not an alienist. This Commission unanimously pronounced the prisoner to be sane, and the trial went on.

The speech of counsel for the defence is so obscured by the fustian description of the newspapers, that it is impossible to discover whether he insisted on the plea of insanity or not; but apparently he did not. The only part of his speech that is reported, is a frank appeal to the jury to express their approval of Lynch Law, and amounted to this:—"Mrs. Thaw is a pretty woman. Stanford White wronged her, and therefore deserved to be shot. Thaw has only done what many Americans have done before with impunity; juries have acquitted them, and you will acquit the prisoner."

The judge placed before the jury the law of homicide of New York State, and from his charge it appears that homicides are classed as murder in the first and second degrees, and man-

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slaughter in the first and second degrees. Murder in the first degree is homicide with design, deliberate and premeditated. Murder in the second degree is homicide with design, but without deliberation or premeditation. Homicide without a design to effect death, or as we should say, without intent to kill, inflicted in the heat of passion and with a dangerous weapon, would be manslaughter in the first degree.

The judge explicitly states that the defence in this case was that the prisoner was insane at the time of the commission of the crime. (The prisoner is called "the defendant" throughout the proceedings, and this is the custom in New York.) The defence is provided for by the Penal Code of New York, which is founded upon our own Common Law, and is as follows:—"A person is not excused from criminal liability as an idiot, an imbecile, lunatic, or insane person, except upon proof that at the time of doing the alleged criminal act he was labouring under such a defect of reason as either not to know the nature and quality of the act he was doing, or not to know that the act was wrong." The following instructions, among others, were given to the jury by the judge: "An irresistible impulse to commit crime, where the offender has the ability to discover his legal and moral duty, has no place in the law, nor is it a weak and disordered mind that can be excused from the consequences of his crime."

"If there existed in the mind of the defendant an insane delusion with reference to the conduct of the deceased, it will not excuse the homicide unless the delusion was of such a character that, if it had been true, it would have rendered the act excusable and justifiable. . . . The settled law of the State is that if A deliberately draws a pistol, and cocks it and points it at you, and discharges its contents into your body, and alleges his insanity as a defence, the inquiry is if A knows when he cocked and fired that pistol and discharged its contents into your body, that the act is such as would probably destroy your life, and did he know that the act was forbidden by law." "The settled law of the State in the test of responsibility for criminal acts, . . . is the capacity of the defendant to distinguish between right and wrong at the time of and in respect to the act."

The following remarks upon expert evidence are interesting. "The examination of the experts was directed to his mental

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condition at the time they saw him, and from the conclusion they then reached, and the medical and other facts proved which would be competent [*i. e.* evidence], to give in the trial an opinion on his sanity or insanity, at the time of the homicide. The jury are entitled to the facts upon which a sanity expert bases his opinion, and when those facts are the result of his own interviews with the defendant, it is not only competent, but it is necessary that they should be laid before the jury." "The opinions of experts are presented as an aid to the jury, and are to be considered by the jury with all the evidence in the case. The quality and not the quantity of such evidence is to be considered." Mr. Justice Fitzgerald.

In the second trial, Mr. Justice Dowling, put it to the jury. "The only question for you to decide is whether the defendant was or was not insane on the evening of June 25, 1906. But the testimony of family history, of prior life, illness and conditions, and of subsequent mental and physical state, is received to cast light upon the defendant's mental condition at the time in question. In this connection, proof of the insanity of relatives is received because it is an accepted pathological fact that some varieties of insanity may be, and even tend to be, transmitted." "A man who reasons himself into a frame of mind wherein he is satisfied that his act is justified, is not thereby excused from the responsibility of his criminal acts."

The interest taken in this very brutal crime was not so much on account of its brutality or singularity, as on account of the position and reputation of the criminal and his victim respectively. Both were men of very great wealth and very prominent persons in a certain section of New York society. In the first trial, the defence was utterly mismanaged. The trial was unnecessarily protracted to a most inordinate length. Insanity was pleaded, but counsel for the defence appeared to resent the conversion of prosecuting counsel to this view, and opposed to the uttermost the motion for the appointment of a lunacy commission. As far as appears from the reports of the trial, the defending counsel did not once refer in his speech for the defence to the alleged insanity of the prisoner. It appeared that the defence was willing to admit that the prisoner was insane at the moment of pulling the trigger, but that he was sane up to that moment, and recovered his sanity the moment after. They wanted him acquitted on the ground of insanity,

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but they wanted to escape the inevitable result—committed to a lunatic asylum; and between the two stools they fell on a disagreement of the jury.

At the second trial the defence was in different hands, and the defending counsel, taught perhaps, by the fate of his predecessor's efforts, elected to plead insanity in serious earnest. A great deal more evidence bearing on the unsoundness of mind of the prisoner or defendant, was brought before the court, and the result was acquittal on the ground of insanity, and the committal of the prisoner to the State criminal asylum. The nature of this evidence is not given in the account furnished to me, but I hear privately that it was very cogent. It is curious that, at the second trial, the prosecuting counsel had changed his opinion, and opposed with all his might the plea of insanity.

The procedure of the trial was very curious in English eyes. How many weeks it lasted I am not sure, but it was very long, although the facts were extremely simple, and were admitted. English observers are entitled to contrast it with a very similar case that occurred in this country subsequently, in which a man named Rayner placed a pistol to the head of Mr. Whiteley, and shot him dead on the spot. Insanity was not actually pleaded in this case, but an attempt was made to show diminished responsibility of the prisoner on the ground of mental defect. The prisoner was tried, convicted and sentenced in one day, and there was never a whisper of a suggestion that the proceedings were too summary. In Thaw's case it took many days merely to impanel the jury, no fewer than 337 jurymen being told, on one pretext or another, to stand aside.

One of the expert witnesses in the Thaw case was in no proper sense an expert. He broke down deplorably in cross-examination, and discredited not only the defence, but all the other expert witnesses, and expert evidence in general; so that, shortly after his cross-examination, a bill was brought in to the Assembly of Albany to abolish hypothetical questions; and do away with calling of experts in any criminal case in which insanity is pleaded. As far as the abolition of hypothetical questions is concerned, my sympathies would be with the enterprising legislator who brought in the bill.

The interposition, in the middle of the trial, of a request on the part of the prosecution for a lunacy commission to examine

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the prisoner, is a curious procedure to which there is no parallel on this side of the water; and the result does not encourage us to introduce it here. The Commission unanimously found the prisoner sane, yet at the second trial the jury unanimously found him insane, and there is no reason to doubt that the second verdict was proper, and was justified by the facts. The composition of the Commission—two lawyers and one doctor who was not an alienist—goes far to show the estimation in which the alienist expert is held in certain legal circles in New York. We have found in this country how much harm one incompetent person can do to the reputation of a whole branch of a profession.

Of course, if the competence of a prisoner to plead was questioned in the course of a trial in this country, a jury would be specially empanelled to try the issue, and they would try it in open court, on parole evidence, subject to cross-examination in the usual way. The substitution of a Commission of three, to investigate the matter in camera, does not, *à priori* or by its result, seem a better proceeding.

The law of New York as to insanity in Criminal cases is that laid down by our Judges in 1843, and was stated by the Judge in its narrowest sense—the sense in which, as an eminent judge has said "hardly anyone is mad enough to come within it." Neither of the Judges is reported to have placed any stress on the meaning of the word "Know" or to have assisted the jury in its interpretation. In these circumstances it is surprising that the prisoner was found insane.

The judge's charge, that a person of weak or disordered mind cannot be excused from the consequences of his crime, is far behind the practice in this country, in which, though the prisoner may be found guilty of the act, his weak or disordered mind is always considered on the infliction of punishment, and usually, if the mind is conspicuously weak or disordered, the verdict of "guilty but insane" relieves him of the worst consequences of his act.

While the test of responsibility, though nominally the same as in this country, seems in fact to be more narrow and rigorous, the admission of evidence in the State of New York gives the witness very much greater latitude. The "hypothetical question" seems an abuse of the time of the Court. Here, a witness would be asked, "Having heard the evidence in Court, what

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opinion have you formed of the state of mind of the prisoner?" But even then he would not be allowed to answer, as the experts in the Thaw case were allowed and expected to answer, the very question that the jury had to decide—that is to say, whether at the time of committing the crime he knew what he was doing and whether it was wrong.

The net results of the trial seem to have been in the main these two. First the frantic endeavour of the defending counsel in the first trial to induce the jury to violate their oaths, and to give the prisoner a general acquittal on the ground that his victim was a wicked man and deserved his fate, met with a very satisfactory defeat. According to the American custom, members of the jury were interviewed after the trial, and what purport to be statements made by them are published in the newspapers. If these are to be believed, it appears that the jury paid no attention to the rhodomontade of the defending counsel, or to his appeals to the sanctity of Lynch law, and considered the case on its merits alone.

The second result of the trial is undoubtedly the discrediting of expert evidence in insanity in New York, and to a less degree, no doubt, in other countries. Whether this result is desirable or no, opinions will be divided.

C. MERCIER.

By the courtesy of Dr. Mabon, Dr. Smith Ely Jelliffe, of New York, has kindly sent us the following comment:

The Second Thaw Trial.

To even a casual observer the second Thaw trial presented a marked contrast to the first. There is little doubt that the dilatory tactics indulged in in the former trial would not have been countenanced by public sentiment, and it was evident from the first hour that Judge Victor J. Dowling went on the bench that the procedure was to be a different one from that followed at the former trial. Thus, he announced that in the obtaining of jurymen the court would sit at night, and the examination of talesmen was conducted with such relentless expedition that in a week a jury was found who thought that they could review the evidence in the case impartially and do their duty by their

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oath. Even the counsel for the defence, who had calculated that two weeks would be necessary for the obtaining of a jury, were surprised at the celerity of the process. Several hundred talesmen were examined.

With the opening of the trial proper, and the presentation of the case by the prosecution, Assistant District Attorney Garvin did not depart from the mode of presentation at the former trial. The prosecution placed its chief reliance upon the evidence of one witness, J. Clinch Smith, a brother-in-law of Stanford White, with whom Harry K. Thaw had had a more or less protracted conversation on the night of the tragedy. The proving of the shooting, of the defendant's manner and acts immediately following, were put in in a clear, concise, though somewhat fragmentary manner.

The prosecution rested its case after three or four hours.

It may be remembered that, according to the testimony of Clinch Smith, the defendant held a conversation with him just prior to the shooting, and that in this conversation he referred to various matters. He referred to the value of stocks, as to what would constitute a good or bad buy in the market; he spoke of his going to Europe, of his ability to introduce Clinch Smith to a buxom brunette, and he also referred to another matter concerning an escapade in which one of his companions had figured, but dismissed it, saying he (Clinch Smith) was too young at the time, Clinch Smith being a man fully fifteen or twenty years the defendant's senior, although a well-preserved, well-groomed man. Clinch Smith was not cross-examined at the former trial by Mr. Delmas, but Mr. Martin W. Littleton, who conducted the case for the defence on the second trial, put him through a very searching cross-examination, and raised a doubt in the minds of the jury on at least three or four points, namely, that possibly the defendant mistook him for another man in maintaining that he was younger than he himself was; that he was engaged in stock market transactions as a trader, which he was not, being a man of leisure; and that he was a man about town and somewhat of a sport, which was naturally denied.

The cross-examination of Clinch Smith was the only attempt made to weaken the side of the prosecution.

It very soon became evident that the long, tiresome rhetorical and oratorical displays on the part of both the District

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Attorney and the counsel for the defence, which were very striking features of the first trial, were to be absent on this, the second trial. The counsel for the defence, Mr. Littleton, preserved a very quiet, dignified attitude throughout the entire trial, indulged in no argument whatever, either before the Judge or the jury, took his exceptions to the Judge's rulings in monosyllables, and allowed the District Attorney no opportunity for controversial bouts. The District Attorney was equally dignified in his handling of the case.

The material facts as brought out at the second trial were presented in a much more logical and orderly manner than at the first. Thus, a large mass of evidence bearing on the heredity of the defendant which was excluded at the first trial was put in at the second—namely, that on both the maternal and paternal sides there were members of the family who had had attacks of mental disorder. In both branches of the family the dominant type of mental disorder consisted of manic excitement. A large amount of new evidence, bearing on the early years of the defendant, were introduced at the second trial, all going to show that he was a highly nervous, excitable, and distinctly psychopathic individual. That he had St. Vitus' dance, and had frequent attacks of it, that he was very unstable, having nervous spells as a boy from five years of age on, and that throughout his entire life, as evidenced by his nurse who had charge of him until the age of five years, his kindergarten teacher, who took charge of him from the age of five to seven, the teacher in a school, a Mr. Beck, who had charge of him at the age of ten, another teacher who had him at the age of fifteen, and a friend of the family, a woman of rare intelligence, a professed psychologist, who had observed him continuously throughout fifteen years of his young life ; all this testimony tended to show that one had to deal with a distinctly different kind of an individual than normal. Thus, a letter sent by his mother to his teacher when he was ten years of age showed that even at that time his abnormalities were so marked that his parents feared what might result.

The following letter, written at this time, shows clearly what the attitude of mind of his mother must have been when he was fifteen years of age :

"MR. BECK, DEAR SIR,—Yours of yesterday received. To

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attempt to describe how much distress both it and Harry's letter gave me is needless. Can you bear with him a while longer? To yield to his wishes now (as he would think if sent home) might ruin him. I did not think him capable of such behaviour, and begin to fear it may not be all badness and rebellion, but that his mind is more or less unbalanced. Do you think there is any danger of that? The uncle to whom I refer as having been weak-minded was, when a child, subject to just such outbreaks of temper, and therefore I cannot help a horrible feeling of dread. Deal gently with him if possible, for my sake as well as his own. His father will be home on Thursday and can help advise me. I have written just now. How would it do to avoid noticing him in any way for one day? I really do not know what to suggest. He is so different from the other four children, and ought to have been more closely reared and trained."

The teacher became convinced of the irrational nature of the acts and appearance of H. K. T. at the time of his nervous attacks.

Further testimony was introduced to show that his education was desultory and irregular, and necessarily so as a result of his nervous, unstable organisation.

All this evidence was presented by the defence, not as evidence of insanity itself, but, as the counsel for the defence put it, to show the kind of timber of which the defendant was made, and he then presented some testimony to show the stress to which this timber was subjected and the effects upon the mind of the individual in later years.

Further, new testimony of Dr. Burton Brown, at one time physician to the British Embassy at Rome, was introduced, showing that at the age of twenty-six he had had, according to Dr. Burton Brown, a short attack of hypomania, lasting at least ten days, during which time he was under the care of a physician and a nurse.

New testimony was also introduced to show that a year or two later, while at Monte Carlo, he suffered from an attack with maniacal symptoms; that one or two years later, while in London, he had an attack of acute excitement, lasting for some eight to ten days, and that during this time he was attended by Dr. Russell Wells, of London, who testified on the stand that the patient was suffering from an attack of acute

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manic excitement, which he diagnosed as the manic phase of manic-depressive insanity.

The testimony then passed over to the history of his meeting with Evelyn Nesbit, and of the years of courtship and of association with this young woman, all of which was fully covered at the first trial, and at the second trial departed in no essential details from the story as previously told, the only new point noticed being that in 1905 the defendant, H. K. T., while in a very distinctly depressed condition, the result of slanders told about his so-called degeneracies and difficulties that he had in persuading Evelyn Nesbit to marry him, attempted to commit suicide in a hotel in Paris. This evidence was only partly corroborated by the statements of a Dr. Gauja, who came from Paris and testified that he had treated the defendant for a severe attack of poisoning, the exact nature of which he was not willing to diagnose. He said that he washed out the patient's stomach, and that he recovered from symptoms which were extremely alarming at the time, namely, very thin rapid pulse, slow breathing, extreme collapse, thin pinched nose, and coma. Dr. Gauja testified that the case was not one of alcoholic poisoning; he was not willing to say that it was opium poisoning. He could not obtain a history, as the patient himself could not speak, and others in attendance spoke no French.

The cross-examination of Evelyn Nesbit's testimony by the District Attorney was not so relentless as at the former trial, although his manner towards her permitted the council for the defence in his summing up to make a very strong argumentative detail.

The testimony of the mother and of the family physician to the effect that he had a severe attack of depression in 1903, when an estrangement took place between H. K. T. and E. N., was repeated, and new details of peculiar irrational acts added by testimony of his butler.

Important new testimony was adduced tending to show that the defendant was in a very excited condition in the Whist Club the day before the shooting, and also on the same day. The butler of the Whist Club testified to many peculiar acts, in the morning and afternoon preceding the shooting, particularly that he dragged a screen about him while playing, the day being very warm, and there being no draughts, and that he

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frequently went to the telephone, telephoned very frequently, and came out saying, "This is awful." That he went out of the Club, then turned, rang the bell, and gave an attendant at the door a small package, requesting "that it be put in the safe." The package contained three ordinary cigarettes. There was testimony that he played whist that afternoon with some prominent players, but they were not called upon to testify by either defence or prosecution.

Testimony bearing on the appearance and conduct of defendant on the roof-garden on the night of the tragedy was largely amplified by a number of witnesses who had not testified before. Some ten to twelve people had seen him, and each and all testified to the fact that he was in a very unusual condition; that he gave evidence of intense, though suppressed, excitement, and that in their opinion his acts and appearance impressed them as irrational. The general purport of their testimony was similar to that of others at the first trial, that although no distinct signs of mania were present, yet his appearance was so unusual as to stamp him as a man of unsound mind. Much of the testimony of these witnesses tended to refute and distinctly contradict a number of details in the testimony of Clinch Smith, particularly that portion in which Clinch Smith maintained that the defendant kept his eyes constantly on a certain spot in the audience, which later on, he, Clinch Smith, found was the spot in which Stanford White sat—a point very material for the prosecution as the only evidence they had presented which in any way tended to show premeditation. The testimony of one young woman is worth repeating, as bearing on his condition at this time, and that was that "immediately upon the shooting H. K. T. broke his revolver, raised it in the air, with his face pale and distorted, one side of his mouth drawn up and the other side drawn down, with his teeth set and all the gums exposed, looking like a waxen figure, his eyes bulging and glassy, the veins standing out upon his forehead, his body absolutely rigid, walked away from the scene of the shooting holding the pistol in the air."

Further testimony showed that the defendant was oriented as to time, place, that he remembered that he had shot a man and knew whom he had shot. His only explanation at this time was—"He ruined my wife."

New testimony was introduced which tended to show that

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on being taken to the Station House, immediately after the event, the defendant was suffering from illusions or hallucinations. These were testified to at the former trial, but were not so clearly presented as on this occasion. It was evident that these illusions or hallucinations were transitory, as they disappeared after about thirty-six to forty-eight hours.

One very strong point made by the defence at the second trial, which was entirely neglected at the first, was the calling of the coroner's jury, all of whom had had an opportunity to observe the defendant forty-eight hours after the shooting. Of the twelve men who sat on the coroner's jury, ten testified that in their opinion the acts and the manner of the defendant H. K. T., at the time of their observing him, forty-eight hours after the shooting, while before the coroner's jury, were irrational. The cross-examination of the coroner's jury by the District Attorney was uneventful, and did not shake their testimony. This very important bit of evidence, as contributory to the other evidence bearing on the defendant's state of mind near the time of the shooting had been entirely disregarded by the former counsel.

The expert testimony on the second trial by Drs. B. D. Evans and Chas. G. Wagner differed in no essential particular from that observed on the first. They described the defendant at their examinations three months after the shooting as suspicious, as excited, voluble in speech, divertible, circumstantial in thought, euphoric, highly self-appreciative, and that occasionally his conversation would take on a character known as "flight"; he expressed ideas of reference, ideas of persecution, and some ideas of influence, but that those ideas, which were somewhat delusional in their character, were loose and unsystematised and could be influenced by argument.

The only other expert who testified in response to the hypothetical question was Dr. Smith Ely Jelliffe. There was no cross-examination of the experts for the defence by the District Attorney, save a short one of Dr. Wagner, bearing on an affidavit which he had made at the time of the proceedings at the first trial before a commission to determine whether the defendant was able to confer with counsel.

The prosecution offered practically no rebuttal. There was no rebuttal on expert testimony, so that in this respect the unfortunate picture presented at the first trial was absent.

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The summing-up of both the counsel for the defence and for the prosecution was masterly. Mr. Littleton spoke for about five hours, and Mr. Jerome for about three hours and a half. Mr. Littleton's summing-up was a wonderful display of oratorical and logical presentation, forceful and effective in the highest degree, thoroughly straightforward and dignified. It was particularly masterly in its iteration and reiteration of the real issues of the case, that is, the evidence bearing on the mental state of the defendant, and, further, extremely successful in that it would tend to force the District Attorney, in his answer, to make certain admissions, which an analysis of the District Attorney's summing-up showed were made.

District Attorney Jerome's final words were effective and very masterly. He, however, admitted three things which undoubtedly had weight with the jury. These were that Stanford White undoubtedly met his just deserts; that the statement of Evelyn Nesbit to her husband, barring the matter of her being drugged, was undoubtedly true; and, thirdly, that the Hummel affidavit (which had been relied upon by the prosecution as tending to upset the testimony of the defendant's wife) was undoubtedly a dishonest instrument. These three admissions on the part of the District Attorney were practically forced from him (from the writer's standpoint) by the masterly summing up of Mr. Littleton.

The Judge's charge was impartial, direct, and able. In one important particular the charge was directly in opposition to the claim of the prosecution, that the burden of proof lay with the defence to show that the defendant was insane beyond a reasonable doubt, the Judge holding on this point that the burden of proof was upon the prosecution to show that beyond a reasonable doubt the defendant was sane at the time of the commitment of the act. This material change of instructions on the part of the Judge, supporting, as it did, the claim of Mr. Littleton, had undoubtedly some weight with some of the jury.

The whole trial was conducted in an exceedingly masterly and systematic manner; indeed, it went along so fast that on two occasions the defence was unable to get its witnesses in time, and had to ask for half a day's postponement. The whole trial took only four weeks, including the getting of the jury, and fully four times as much testimony was put in evidence as on the previous trial.

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The general theory of the defence tended to show that the defendant had had periodic attacks of mental unsoundness, that such periodic attacks had occurred at infrequent intervals, and were of the general manic-depressive type.

A verdict was reached, after some fifty-six hours' deliberation, of "not guilty on the ground of insanity," and Judge Dowling remanded the defendant for observation to the Matteawan State Hospital for Insane Criminals at Fishkill Landing, on the Hudson, seventy-five miles north of New York.

Occasional Notes.

The Late Dr. Conolly Norman.

Death, happily sudden and painless, has deprived our Association of the services of a man, whose merits are so ably described in the opening pages of this journal, that we shall make no attempt to add thereto. His many friends know how difficult is the task of adequately expressing a full appreciation of his worth. For years Dr. Conolly Norman has been an editor of this journal. The record of his work, and his love of it, are to be found in innumerable contributions, but beyond these his co-workers have unforgettable memories of his love of truth and honour, of his bright wit and kindly humour, intensifying their personal sense of loss.

Dying in harness, he has missed the fullest public recognition of the success of his life's work that would have come to him had he been spared for a few more years. The degree of Doctor of Medicine recently bestowed on Dr. Norman by the University of Dublin was probably but a foreshadowing of greater honours to come.

Our regret that Dr. Norman had not reaped the harvest of his deserving is increased by the anticipation that some of the good work he has done may be marred by the

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recrudescence of retrogressive tendencies against which he had striven so long.

Our consolation is, that though

> "The path that each man trod
> Is dim, or will be dim, with weeds,"

to the resulting question,

> "What fame is left for human deeds
> In endless age?"

the poet answers that "It rests with God."

Changes in Scotland.

Dr. Clouston's retirement from the Royal Edinburgh Asylum is one among several changes in Scotland which we cannot but regret. Dr. Rutherford had no sooner resigned from the Crichton Royal Institution at Dumfries, and our colleagues had no sooner settled down to their respective duties, than the Morningside vacancy was declared. We sincerely wish both physicians many and happy days and a green old age, promising useful results of learned leisure in retirement.

We cannot well conceive Dr. Clouston on the shelf, dusty with years; and somehow Morningside will not be quite the same to his older friends. When we remember what he has done to develop that important institution, how he has enhanced its reputation, how he has so lightly borne the burden of responsibility and laboured so constantly in the pressure of consultations, of medico-legal work, of journalistic and literary engagements, how he has lectured and taught, given time and careful attention to our affairs and the business of the Royal College of Physicians—when we thus briefly recite his achievements we refrain from rash prophecy as to the nature of his future development. We expect with certainty the "last fruit off an old tree" before the curfew:

> "Not bed-time yet! The full-blown flower
> Of all the year—this evening hour
> With friendship's flame is bright."

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In accepting Dr. Clouston's resignation, the Managers of the Royal Edinburgh Asylum were moved to place on record their high privilege to express their deep sense of the services conferred by him on the institution since 1873, by the remodelling of the West House and the erection of the stately edifice of New Craig House. Passing beyond domestic details they go on to state that few men in his department have enjoyed so fully the confidence of the medical profession at large. The Hundredth Anniversary of the Royal Charter of the Asylum was celebrated last year, and Dr. Clouston, in summing up his experience of thirty-five years in Morningside, refers all too briefly to the changes which those years have brought. He notes that it is his forty-seventh annual report, and that it has been written with greater difficulty than any one which has gone before, in view of the fact that it was quite impossible to indicate the feelings with which he leaves his patients and his work:

"Eheu fugaces, Postume, Postume
Labuntur anni."

When we turn to the Report of the Crichton Royal Institution, we find the Directors recording the event of the year, which will long cause it to be remembered with regret. This refers to the retirement of Dr. Rutherford, the distinguished physician and able administrator during twenty-five years of service, in which he heightened the reputation of the Crichton and multiplied its resources in a marvellous degree. Dr. Rutherford contributes a very short *resumé* of those noteworthy achievements, but, short as it is, too long to find place here. The generous superannuation allowances made to Dr. Rutherford and Dr. Clouston, the appropriate expression of regard conveyed to them, cannot but soften the regret with which these energetic and distinguished physicians pass from their official labours. They have joined the veteran Dr. Yellowlees, and will not fail us in wise and kindly counsel—Nestors all.

"Ubi tres medici, tres amici."

Dr. Maudsley and the Metropolitan Hospital for Mental Diseases.

The offer of thirty thousand pounds by Dr. Maudsley to the London County Council in aid of the erection of a metropolitan

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hospital for the insane, is a striking evidence of the sympathy for suffering that is begotten of life-long efforts in its relief. A highly distinguished career is more truly ennobled by such an act than by the distinction conferred by any public honour. If Dr. Maudsley's name is associated with the institution, as it should be, it would be a worthy perpetuation of the memory both of the munificence and the man.

The necessity for such an institution is beyond all doubt. The general hospitals have so unanimously neglected their duty of providing wards for incipient mental disease that these have been relegated to the workhouse infirmaries, or the police cells, when their malady had developed sufficiently to render them unbearable in their families or intolerable by the public. The police cell is certainly not a desirable place for the treatment of disease, and although some of the workhouse infirmaries have done excellent work in late years, they cannot furnish the means of treatment which should be forthcoming in the specially equipped wards of a general or special hospital. These maladies offer more possibilities of arrest in their incipient and prodromatous stage than most other forms of disease, and this neglect is therefore all the more deeply culpable.

The proposed hospital, it may be hoped, will be closely allied to one of the general hospitals, where it would have the advantages of having at all hours the assistance of specialists of every kind and the apparatus for inquiry and treatment which each specialty demands. To provide all this skilled knowledge with the necessary appliances at all times available in an isolated hospital of the special type would necessitate great expenditure and involve an immense amount of extra work.

The association of the mental with a general hospital, as in the case of the out-patient departments, would go far to help on recognition in the popular mind that insanity is disease, and to destroy at once the prejudice against mad-houses, which might to some extent attach itself to a hospital devoted to such diseases.

Such an alliance need not necessarily be a drawback to the general instruction to the medical students of the Metropolis, and might be of real advantage to those who were devoting themselves to this branch of medicine.

The clinical study of mental diseases would certainly be

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advantaged by such close association with those engaged in other special and general work; the isolated special hospital, on the contrary, would suffer from the loss of the criticism and suggestion which would arise from close connection with general medical workers.

The pathological work of such a hospital should be of great importance, the early stages of disorder being so commonly associated with one or more conditions of bodily disease, that the study of these states should throw more light on their development than is to be obtained from the pathological terminals, often very remote from causation, furnished by the asylum. Here, also, the special would be greatly advantaged by association with general pathology.

The cost of such a hospital will, in any case, be very large; and this would be very much greater if started as an independent institution. In a community so heavily involved in debt as London, with such gloomy financial prospects, the question of undertaking such a large initial outlay and so great an annual expenditure must ultimately depend on the extent of these.

The London County Council has always shown a great desire to help the insane, and will certainly carry out the object so practically and generously supported if it can possibly do so, and we trust, therefore, that future generations may have reason to remember with thankfulness the originator of the institution that might appropriately be named the "Maudsley Mental Hospital."

Mental Therapeutics.

The treatment of mental disease, although based on the relief of the physical conditions accompanying it, is also dependent to a very great extent on the mental environment, and this environment is entirely dependent on the knowledge, experience, and skill of those who have to deal with the daily life of the individual.

The importance of this aspect of treatment cannot be overestimated, and cannot be too frequently or too emphatically dwelt on. The alienist physician, fully recognising this and practising it in every hour of his professional life, is but too apt

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to forget that what to him is an intuition, an almost unconscious reflex, is an unknown quantity to the vast majority of his professional brethren. The daily round of the true alienist physician is, or should be, to the understanding observer a profound study in psychic medicine.

Furnished with boundless sympathy, unfailing hopefulness, unlimited forgivingness, armed with fullest knowledge of the general working of the disordered mind, and of the idiosyncrasy of his individual cases, the true physician's visit is a marvellous dispensation of psychic medicine, every form of emotional appeal and intellectual stimulus being administered with the minutest adaptation to the needs of the special case.

In text-books and in the general literature of insanity, little is to be found descriptive of this important element of treatment, except from inference, although in the older writers it was much more largely dwelt on.

The silence on this most important therapeutic element has led the profession and the public to conclude that there is really nothing special in the treatment of insanity; that any doctor, and particularly those who had nothing to do with insanity, could prescribe the necessary *régime* and administer the necessary drugs; that any lay person, especially those who had no experience in lunacy, could undertake the care of an insane person. The results of this woeful error can be testified to by the experience of many asylum physicians, and to it the chronic lunacy of hundreds of human beings may be traced.

The treatment of insanity by inexperienced caretakers, often under unsuitable conditions, that has resulted from this ignorance of the most important and essential element of successful cure, has developed to such an extent that some more definite expression should be given to our knowledge of this subject.

The importance of mental influences in the treatment of disease is seen in the empiric cures effected by faith curers, by Christian Scientists, by innumerable systems, shrines, etc., and it is fully time that these mental influences should be reduced to scientific accuracy. Several Continental workers are already doing so, and it is equally important that the mental influences employed in asylums should not only be practised but be brought before the profession from a scientific point of view.

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The After-care Association.

The annual meeting of the After-care Association for the aid of persons discharged recovered from asylums for the insane was held on January 29th at 48, Wimpole Street, by the kind permission of Dr. Blandford.

The chair was taken by Mr. Anthony Hope Hawkins, who made a very interesting opening speech, in which he alluded to his relationship to the late Mr. Hawkins, the Chaplain of Colney Hatch, to whose initiative the founding of the Society was due.

Dr. Savage also read a short paper on "The Convalescence from Mental Disorders and its Difficulties," which greatly interested the unusually large meeting.

The Report shows that the usefulness of the Association is steadily increasing, the numbers aided being larger in each year. The income of the Society from subscriptions is well maintained, and there is a substantial reserve from legacies, life subscriptions, etc., to meet any contingencies that may arise.

During the year a "guild" has been formed which promises to be of much importance, not only in supplying clothing, but also in spreading the knowledge of the aims and objects of the Association.

The prevention of relapse, which after-care assists very considerably, is alone sufficient to justify the support which so many asylum superintendents give to its work, and to commend it to those who have not hitherto availed themselves of its services.

Prevention of relapse, however, is only secondary and incidental to the main purpose of sheltering, helping, and comforting many who, on leaving asylums, would practically be homeless and friendless but for this Association.

Part II.—Reviews.

A Text-book of Mental and Sick Nursing, adapted for Medical Officers and Nurses in Private and Public Asylums. By ROBERT JONES, M.D., with an introduction by Sir W. J. COLLINS. London: The Scientific Press, Ltd., 1907. 8vo. Price 3*s.* 6*d.*

Dr. Jones has dedicated his book to the Princess Christian, whose encouragement has done so much for nurses; and Sir William Collins,

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whose long administrative experience gives him right to authoritative utterance, in commending the work, says that the inherent difficulties of treatment of the insane justify every effort towards instruction. That is an approval of the labours of the army of asylum physicians, who give so much of their time and attention to the training of attendants and nurses throughout the country. Dr. Jones begins by saying that the proper training of asylum nurses (male and female) was only seriously begun within the last twenty years; but the fact is that twenty-four years have now elapsed since the methods were formulated and the first edition of the hand-book of the Association was prepared. Dr. W. A. F. Browne, early in the forties, directed attention to the subject, and gave lectures in the Montrose and Dumfries Royal Asylums; but it was not until Dr. Clouston revived the question, and until Dr. Campbell Clarke took it up, that general consent was attained. We could have wished that Dr. Jones, in conclusion, had said that mental nursing is pre-eminently suitable to able and conscientious men as well as women. The conscientious and devoted work done by attendants deserves equal recognition, and Dr. Jones addresses his book to both sexes.

We may regard the work as an expansion of, and a commentary on, the official hand-book, which is now undergoing revision. It has the merit of the personal note, instruction given by a physician of long and wide experience, devoted to the improvement of the condition of the insane and all that familiar phrase means. The first part of the book constitutes the anatomical and physiological groundwork upon which the professional knowledge of the nursing staff must be based. It labours under the common disadvantage of having to convey highly technical facts and inferences in words which must present difficulties in due appreciation, but it is apparent that Dr. Jones has constantly kept these difficulties in mind and has performed his task effectively. Three chapters are devoted to the psychological analysis of normal and abnormal individuals, and conclude with a simple classification of insanity which will enable the nurse to arrange her ideas in a practical way. We believe that the preliminary information leads up to the special work of nursing clearly, and that nurses will value the book on that account. It is strange that examiners so seldom require of nurses an intelligible account of their observations on certain well-marked cases of mental disorder. Nothing is better calculated to arrange their ideas than practice in the reporting of cases as they have come under personal knowledge.

The remaining fifteen chapters constitute the larger part of the work, dealing with the management of the insane, therapeutical measures, complications of maladies, emergencies, etc.

We heartily commend Dr. Jones' *Mental and Sick Nursing* as suitable for teachers and taught.

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Manual for Nurses in Hospitals for Mental Diseases [*Manuel des Gardes-Malades dans les Hôpitaux pour Maladies Mentales*]. By Dr. JULES MOREL, Medical Director of the State Lunatic Asylum, Mons. Bruges: Houdmont Boivin et Fils 1907. Price 2*s*.

In an interesting preface Dr. Morel directs attention to the progress of mental nursing during thirty years. He notes the unanimity of alienists in regard to the increasing worth and quality of those who devote themselves to this work. The value of the asylum nursing staff has not only been increased by organised lectures of a practical and theoretical nature, but the better quality of the nursing staff is reflected in the greater tranquility and happiness of the patients. Dr. Morel is hopeful that the example of foreign countries and the attention that they devote to mental nursing may result in the Belgian asylum authorities rivalling their zeal. It is to this end that he has responded to repeated requests and issued his most practical manual.

While mainly concerned with nursing, the manual appeals to a wider circle, in that it contains many practical hints on the construction and furnishing of asylums, and the treatment of the insane. The several subjects are dealt with in a concise and lively manner. The one chapter in the book that may be taken exception to is that on the anatomy and physiology of the body. These important subjects are, perhaps, treated in a somewhat elementary manner. A useful chapter on the primary principles of hygiene to some extent supplies the deficiency complained of, as it includes the wide range of ventilation, lighting, heating, food, and clothing. The instructions under the heading, "Care to be given to the Sick," are full and to the point. In this chapter Dr. Morel has no objection to light-smelling plants or bouquets in the sick-room, but objects to the presence of cage-birds, dogs and cats. Dr. Morel is very happy in his treatment and care of the insane. Many useful and valuable points are dealt with, and no subject of importance has escaped his attention. The manual is well printed. It is written in a charming and lucid manner, and may be confidently recommended as a book of value to all interested in the nursing of the insane.

[We regret to hear that the Church has issued an order that no attendant shall read such a book, and in consequence Dr. Morel has involved himself in very considerable expense. We have searched in vain for any ostensible reason for this unwarrantable obscurantism, but the clerical mind works in its own grooves now as ever. Our sympathy is entirely with our distinguished colleague, and we hope that our readers will hasten to acquire copies of the manual and thus relieve Dr. Morel of some part of his pressing obligations.]

The History of the Bethel Hospital at Norwich, built by Mrs. Mary Chapman in 1713. Commenced by Sir FREDERICK BATEMAN and completed by WALTER RYE. Norwich, 1906. Fo. Illustrated.

By degrees the older asylums are finding historians to gather up the records and set them forth in readable monographs. This handsome

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volume, beautifully illustrated, is, in some measure, a memento of that beloved physician, the late Sir Frederick Bateman. His scanty leisure and his lamented decease did not permit him to complete the labour of love which he had undertaken; and it is well that Mr. Rye was found willing to continue and conclude the work of preparation and publication.

The History is prefaced by an account of the site, the foundress, and her family. The lives of the Trustees and Governors, among which are many notable names, and details of interest regarding the property follow; and an appendix concerning the riot of 1648 is of special interest.

Mrs. Mary Chapman, whose father was Sheriff and Mayor of Norwich, was moved to build the hospital in 1712, at a cost of £314. The purpose she had in mind was to relieve the poorer class of insane persons, because some of her nearest kindred were so afflicted, and she clearly restricted the operations of the charity to those who, not being idiots, were such as had local claims. It is to be noted that Mrs. Chapman instructed that it should remain a private trust, and that the Court of Chancery decided that the hospital was for cure, not for care. This early recognition of the vital purpose of a hospital is somewhat extraordinary, for under the Rules of 1728 a certificate must be granted by the physician that each insane person is fit for admission.

The hospital has received many benefactions, the first dating from 1729, and by the generosity of many supporters it was enlarged in 1763. Since then the minutes show various improvements, and the photographs with which the book is adorned show the present condition of the institution. Certain entries are of interest, *e.g.*, in 1756 the master retired on a pension of £20 a year; in 1832 the Board was impressed with the necessity of more effective nursing at night; and increased attention was given to sanitary requirements in 1851.

The Building Agreement of 1712 is reproduced in its quaint and exact phraseology—a happy thought! We are glad to note that a grateful patient, who received much Christian kindness from the officials and nurses, suggested that the tomb of the foundress should be renovated. This was carried out at the Governors' expense.

Degeneration in Families: Observations in a Lunatic Asylum. By Fr. Lange, M.D., Middelfart, Denmark. Trans. by C. Chr. Sonne. London: Kimpton, 1907. 8vo. Price 3*s.* 6*d.* net.

This is a book of many repetitions and strange psychological ideas. The translation is marked by an uneasy style and irritating solecisms. The very title, insisting on *lunacy*, repels the reader, and the main thesis of the work is unnecessarily depressing. These asylum records constitute a part only of the question of degeneration; they are culled from the wreckage of humanity, and they do not show the opposite side of the shield—the regeneration of families by the introduction of prepotent fresh blood. No adequate deductions can be drawn from the exclusive study of the insane, of the tubercular, of the cancerous. We require the records of families taken at random from the general population, with special reference to the normal persons as well as the abnormal. No doubt a failure of the nervous system repeated genera-

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tion after generation issues in decay and obliteration of the unhealthy stock, but there are also sporadic cases of insanity in a renascent stock. What would be the condition of the civilised world if the author should, unhappily, prove to be correct in his idea that a family only needs four generations from its flourishing climax to dissolve, collapse, and die out? The integrity of the great middle-class of this country would be menaced, the House of Lords would be promptly disbanded, and the constant recruiting of the haves from the ranks of the have-nots would come to an untimely end.

Nature, too, as usual in writings of this class, comes in for reprobation—"Indeed, no mercy is to be hoped for from Nature." Are the reparative powers of nature on the wane because of these morbid psychological studies? Even in asylums we can discern these reparative attempts by methods familiar to the physician, and our hope lies in so guiding those attempts that we may attain to a greater success in psychiatry.

Dr. Lange recognises the frequency of lues, scrofula, phthisis, and cancer among insane families, but fails to see any light in the relationship. Can it be that the clinical work and the laboratory records referring to toxines have been overlooked? He discusses groups of cases relative to epilepsy, apart from its pathology; to "potationary inheritance" (yet another polite equivoque for drunkenness), and to the "aristocracy of mental diseases—the great families"—which would seem to be the dreary remainder. This remainder is marked by "uratic degeneration." It does not seem worth while to pursue the study of these oddly selected groups, even to elucidate what is meant by rectilinear brainwork, and the solid and reliable working of the brain. If our readers desire to follow Dr. Lange through his indisputable facts, his "psychiatric radicals," he may search further to recognise (1) the restriction which is the cause of melancholy, (2) the flight of mania, (3) the debilitation of confusion, (4) the erroneous conceit as the centre of insanity, and (5) the coercive conceit which is final. But he will not find these conceits without stringent labour, for, of course, there is no index and no schematic system of chapters.

De l'Absolue Nécessité de l'Assistance des Enfants anormaux et de ses Résultats au Point de Vue social. Par MAURICE ROYER. Paris, 1907. Octavo, pp. 150.

This little treatise is introduced by a preface by Dr. Bourneville, who is now retired from his service at the Bicêtre, though he still continues to be physician of the Fondation Vallée. After a short description of the degrees of mental weakness from birth, Dr. Royer bestows a well-deserved tribute to the philanthropic labours of Edward Seguin in the education of idiots, which he began in 1837 and carried on for a year at the Bicêtre (1842). In 1851 he transferred his activity and great teaching powers to America; he died at New York in 1880.

While Seguin was *premier des premiers* in the education of abnormal children, the second place in France is assigned to Bourneville. This distinguished physician and journalist, by his unrivalled energy has

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restored and upheld the school for idiots at the Bicêtre, and given to the world a long series of researches made by himself and his *internes*, which have thrown so much light upon the pathology and treatment of idiocy, epilepsy, and other nervous disorders of children. Bourneville has published twenty-five tomes on these subjects, besides numerous reports to different councils and contributions to medical journals.

Dr. Royer explains the methods of training pursued by Bourneville and the results obtained. This chapter is illustrated by forty-one woodcuts, which show the ingenious apparatus for the instruction of imbecile children and the gymnastic exercises used at the Bicêtre.

In the next chapter the author pleads with force and eloquence on the duty of the State to take the charge of abnormal children who require to be educated at special establishments. Dr. Royer details the present state of the assistance of these unfortunates in France and other countries. It appears that Dr. Royer is no student of foreign literature; in the bibliography which he gives, filling five pages, only one work in English is mentioned; but, indeed, France has done so much in this department that she has little need to seek aid from foreign countries. The author gives a report of fourteen cases to illustrate the improvement which sometimes attends careful medical and educative training. Some of these are unusually favourable. The story of Henriette Vel might almost do for a magazine. Deserted by her mother when fifteen months old, this child was sent to the Fondation Vallée when eight years old, reported to be affected with pronounced imbecility accompanied by epilepsy.

She was treated with hydrotherapy and bromide of camphor, under which the attacks of epileptic vertigo disappeared. At the age of eighteen she went to work in a shop where there was a restaurant, and, as we are told, a young labourer, who took his meals there, was attracted by her appearance and did not hesitate to ask her in marriage, and persisted in his project although warned by the girl of her situation and former complaint. We are then told in feeling language how she worked and saved that their little house might be furnished; she quitted the Fondation the day of her marriage, went alone to the maire of Montreuil where her *fiancé* and the witnesses awaited her. The Sunday after the marriage Henriette came with her husband to thank the good women of the Fondation who had been so kind to her. She continued to be regular and industrious, and the pair are said to be quite happy. In several of the other cases reported we are told that the matter ends with marriage and maternity.

Dr. Royer's book is written with a pleasing enthusiasm and that clearness and preciseness of expression which generally characterises the writings of French scientific writers. WILLIAM W. IRELAND.

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Part III.—Epitome.

Progress of Psychiatry in 1907.

AMERICA.

By Dr. WILLIAM McDONALD, JUN.

DURING the year which has recently come to a close, much has happened which might well receive mention in a *resumé* of the psychiatric work in America, and many events would bear close scrutiny and study as sign-posts of the trend of this modern branch of medicine. The space, however, is too limited to permit even a complete cataloguing of important occurrences, much less a satisfactory analysis. We are permitted to touch only here and there upon the more obtrusive points in the year's history.

Recent reports indicate that Christian Science, spiritualism, and other pseudo-sciences have gained a foothold in Germany, in France, and other countries. Americans are accustomed to regard their more conservative English brethren as immune from the ravages of any such fanatical epidemic as has emanated from the teachings of *Mother Eddy*. We admire the Englishman's stability and his resistance against the attacks of such energetic propagandists. With great interest, however, are we awaiting his response to the subtle and insidious advances of certain theories which, though on an infinitely higher plane than Christian Science teachings, have awakened in America a powerful movement toward the *mental* treatment of mental disorder, a movement which has been stigmatised somewhat hastily and unjustly as the "Mother-Eddyism of medicine."

Boston, jocularly known as the "hub of the universe," has long been notorious for its uncritical acceptance of, and wild enthusiam over, the so-called cults. To one born and bred under another influence than that of the blue stocking, in an atmosphere unsoftened by the effluence of Browning and unenriched by the savory emanations of the baked bean pot, there is no way of comprehending the animus which builds, almost over-night, to "*Mother Eddy*, Christ, and John the Baptist," that beautiful million-dollar "Church of Christ-Scientist," or its predecessor, the old "Mother Church" with its stained glass window entitled "The Woman God Crowned," representing the woman of the apocalypse clothed in the sun and crowned with twelve stars. The uninitiated, wending his infidel way among the streets of Boston's conservative Back Bay, views with amazement the multitude of prosperous-appearing establishments flaunting in highly polished brazen letters such proclamations as, *Christian Science Reading Rooms*, *Library of Spiritualistic Literature*, *Clairvoyant Parlors*; *Bombasti*, *Hindu Astrologer*; *Dr. Squeezer*, *Osteopathist*; *A. Skinner*, *Professor of Palmistry*; *Madame Faker*, *Cheirographer*; *Madame Dreamer*, *Spiritualistic Medium*. What may be the portent of the existence of this

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thriving colony of pseudo-science pushing its way into the very heart of a highly cultured city, and, apparently wholly unconscious of any incongruity, seating itself on the very hearthstone of learning, next to one of the greatest medical schools in the world, under the very doors of a magnificient public library, among beautiful churches, and between the doors of world-renowned physicians, scholars, musicians and artists? Is there to be found any causative relation between the impudent assurance of such proselytism and the present enthusiasm among Boston's physicians, clergymen, and laymen over the principles of psycho-therapy? Unquestionably the last query must be answered in the affirmative, though the analysis of the relationship is difficult, since the connection is not by one bond but by many.

It would be unfair to hold Boston alone responsible for all that to which the names psycho-analysis and psycho-therapy have been applied, since many other communities have taken up the movement and the whole country has exhibited deep interest. It was merely for Boston to take the initiative, and Boston did so simply because Boston *is* Boston, and because there is something in its inhabitants—perhaps inherited from fanatic Puritan forefathers—which prompts them, in the eager search for truth, self-cultivation, and self-betterment, to seize upon any newer doctrine so long only as it extends at least a promise of the fulfilment of yearnings for higher things. Thus Christian Science and other pseudo-sciences naturally found a rich soil in common with these later doctrines of mental therapy, which it is to be hoped are but the beginnings of a real science of mental healing.

But there is even a closer relation between the pseudo mental science and this new alleged legitimate offspring of psychiatry. If we are just in our estimate of Christian Science as it is to-day, we must admit that, despite the blasphemous pretensions of Mrs. Eddy, her church has won a large number of adherents, many of whom seem to be sober and rather reasonable beings, who lay stress, not so much upon the body-healing powers of the "science," as upon those elements of the teachings which tend to develop and encourage cheerfulness, contentment, and healthfulness of mind. Indeed, there is universal testimony to the effect that the followers have, as a rule, an appearance of quiet happiness, while their meetings and religious services are characterised by a minimum of that sombreness and morbid melancholy which too often rests like a pall over religious congregations. Other churches observing the alarming falling-off in religious attendance, viewing sadly their own empty pews, while the neighbouring Christian Scientist teachers address full houses, are prompted to ask if, after all, these may not have found something new, appealing forcibly to the heart and mind of weary, discontented man. At any rate the instinct of self-preservation forces them to look to their guns lest prompt annihilation be their fate. Herein may be found one of the factors responsible for the present activity of the clergy in "mental therapeutics," and, indeed, it has been suggested that the medical profession itself is not entirely unselfish in its suddenly aroused interest on this subject. As expressed by a speaker at a recent psychiatric meeting, "there can be no question of the influence of conscious thought upon bodily health, or *vice-versâ*; the physician has been so busy with his drugs, the surgeon so much occu-

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pied with his knife, that the importance of correct thinking, on the part of the patient, has been neglected by the profession. Others, however, have recognised the value of developing healthy mental control, and we to-day are faced with the question, 'Shall we, as physicians, claim the field of mental therapeutics, or shall we abandon it to the church, to the charlatan, and the quack?'" In other words, it is a question concerning the daily bread and butter of the physician.

That the church, with a beginning realisation of the loss of its hold upon men, is showing a desire once more to get in touch with them, and is seeking to supply something for which humanity is crying aloud, is revealed by the activity of Emmanuel Church, Boston. Surely you across the sea have heard of this work. Even so you may be impelled to ask, as was one of the foremost of New York's practical neurologists, in attendance at a recent joint meeting of New York, Philadelphia, Baltimore, and Washington neurologists and psychiatrists, with the Boston Society of Psychiatry and Neurology: "Tell us exactly what you do at the Emmanuel Church, for we cannot pick up a scientific periodical but has some reference to the work in Emmanuel Church, while the lay journals—at least those printed east of the Hudson River—Heaven knows they contain little else but reference to psycho-therapeutics in Emmanuel Church, Boston." A similar interrogation was put by Dr. John K. Mitchell, of Philadelphia, who said: "Are you sure you have not given a new name to an old practice? The word *psycho-therapeutics* may not appear in the *Index Medicus*, but we have all used the principles for years, and our fathers used them before us. In fact, *psycho-therapeutics* has been practised, to be conservative, since the time of the Pharaohs. What is there that is new in your treatment of patients? What do you do at Emmanuel Church?"

Whether they have heard of Emmanual Church or not, your readers may find, if interested, in the *Century Magazine* for March, 1908, a concise and well-written account under the title *Christianity and Health*, an *Experiment in Practical Religion*, by the *Rev. Samuel McComb, D.D.*, who also bears the title *Associate Director of Class for the Moral Treatment of Nervous Disorders, Emmanuel Church, Boston.*

Those who are familiar with the commendable work of Pierre Janet, Morton Prince, and the psycho-analytic method of Jung and others, may guess correctly as to the character of the work at Emmanuel Church after reading the headings of the chapters of the above-mentioned article, which are: *Suggestion, Subconsciousness, Faith, Prayer.* To convey some notion of the work done it is only necessary to add that there is a church *clinic*, to give a single *testimonial* as to the experience of a patient, and to quote a few sentences from Dr. McComb's article. The quotation is as follows: "Along the lines above indicated an interesting and, it is believed, fruitful experiment has been going on in connection with Emmanuel Church, Boston. The Church is Protestant Episcopal, but the work it is seeking to do is human and universal, knowing no distinction of creed or social station. This effort may be described as an attempt to weld into friendly alliance the most progressive neurological knowledge of the schools and a primitive New Testament Christianity as scholarship has

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disclosed it, with a view to the relief of human suffering and the transformation of human character."

The testimonial is: "F. is a woman who had suffered a long period from neurasthenia and melancholia. For nine months she knew no sleep without drugs. Much against her will she was induced to attend one of our meetings for nervous patients. She was greatly interested and impressed; that night she took no narcotic, and slept seven hours. In three weeks or so she obtained normal sleep, and though since then she has been exposed to great mental stress, she has gained thirty pounds in weight, and feels, as she expresses it, 'Ten years younger.'"

In the February *Outlook* is an article by Richard C. Cabot, M.D., of Boston, giving a more detailed account of the work at Emmanuel Church. It appears that Dr. Worcester, Director, has studied psychology under Wundt, in Germany, and taught it for six years at Lehigh University. Dr. McComb, his associate, has also studied psychology at Oxford, and has had special opportunities for acquainting himself with abnormal psychology. Evidently, then, the patients treated at Emmanuel Church have unusual opportunities to obtain intelligent advice. It is questionable if the amount of good, which Dr. Cabot believes has been accomplished in the clinics of Dr. Worcester and Dr. McComb, would be accomplished in other churches, of which the majority of pastors have no special knowledge of either normal or morbid psychology. Nevertheless, Dr. Cabot's belief in the importance of religion—using the term as he has qualified it—in the cure of disease, is based upon sound reasoning, and the success of the work at Emmanuel Church is explained by the employment of a rare combination of religious spirit with scientific knowledge and skill under the direction of Dr. Worcester. In order to demonstrate the rationality of Dr. Cabot's contentions a paragraph or two from his article are worth quoting in full:

"Because I believe, then, that all explanation, all encouragement, all education which ignores religion is, for that reason, slipshod and slovenly, I believe that patients whose physical ills can be mitigated through explanation, encouragement, and education need the help of someone to whom religion is a working reality.

"Using the word religion, as I have done in the inclusive sense, not as one activity or one interest among others, but as the foundation and motive power of all interests and activities, I should say that the most religious persons, in my acquaintance, are the educators and the social workers. Were they free to take up the work of psycho-therapeutics, I believe they would be better fitted for it than either the ministers or the doctors, but since this is impracticable, and since the great majority of the medical profession still incline to behave as if religion were a special more or less harmless interest like a taste for old china, the help of the right kind of minister should be welcomed by all physicians who have at heart the bettering of the conditions of mental and nervous health in the community at large."

It is difficult to convey in a few words any adequate conception of the enthusiasm which has been aroused in this country over the subject of psycho-therapeutics. Not only have medical societies busied them-

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selves quite universally with the topic, but many churches and societies, the daily papers, and miscellaneous periodicals have taken up the cry. An attempt has been made to establish clinics in New York and other cities. The press is full of reports of the work, and many neurologists and psychiatrists have expressed themselves in lay and scientific journals as being entirely in sympathy with the effort. Moreover, a number of prominent physicians have been writing in the lay magazines articles intended to instruct the public concerning the nature of obsession, phobia, and other morbid mental phenomena.

With full recognition of the good which unquestionably has already been, and is still to be, accomplished by such labours, one must also be cognisant of possible harm which, through ignorance or carelessness, may follow this well-meant expenditure of energy. One result of all this activity in psycho-therapeutics in the medical profession, with the clergy and among laymen, has been the production of a perfect whirlwind of carelessly-used terminology. Such words as *auto-suggestion*, *hetero-suggestion*, *synthesis*, *dys-synthesis*, *sub-consciousness*, *mental automatism*, *multiple personality*, and similar high-sounding terms from the mouths of the untutored at times amuse, but more often distress the students who realise their uncertain significance. They who have in times past thrown themselves with all the energy and tact at their disposal into the mysteries of psycho-therapeutics, occasionally, it is true, with success in the treatment of the patient, though often experiencing chagrin at the futility of their efforts, are standing dumbly, almost benumbed, with eyes anxiously strained toward the future, watching for the outcome of all this indiscriminate education of the populace concerning unhealthy states of mind, the nature, cause, and cure of which are, for even the leaders in psychiatric thought, as yet debated and uncertain quantities. We wonder especially and with fearsome misgivings, concerning the effect of such *suggestion* and *hetero-suggestion* upon minds heretofore healthy and unburdened.

Last year your correspondent had much to say concerning the Thaw case, which then occupied the centre of the stage here and had aroused some attention in foreign lands. Personal letters have shown that British psychiatrists were especially interested. The first trial ended in a disagreement, an outcome which had been quite generally prophesied as the inevitable consequence of the vast amount of confusing and contradictory so-called expert medical opinion presented to the jury. The cost to the State and the accused was enormous, and the whole trial was a disgrace to legal procedure and a shame to medicine. The second trial, lately finished, formed a pleasing contrast with the first. It was conducted with dignity, and there was little prostitution of expert medical testimony to the disgusting solicitations of Mammon. The jury brought in a verdict of "not guilty by reason of insanity," and the patient was promptly committed to the State Hospital at Matteawan, where, it is to be hoped, he may remain so long as he is in need of care and restraint, and until public opinion would no longer be outraged by his release.

A significant, almost startling, phenomenon in connection with the second Thaw trial was the facile introduction of foreign witnesses. English and French testimony was imported for the occasion, and

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stepped from the steamer into the court-house with a timeliness and punctuality really marvellous. Truly the oceans are daily growing smaller; the inhabitants of the world are becoming citizens of one great community, neighbours on one side or the other of a narrow street. And we, whose everyday business is psychiatry, are we touching elbows on terms of sufficient intimacy? When our respective bodies politic and bodies social shall have fully established their bonds of common sympathy and fellowship, let us not be found with discordant psychiatric theories or dissimilar practice. In the interests of universal peace and harmony, as well as for the dissemination of news of common interest, the publication yearly in the *Journal of Mental Science* of an epitome of foreign psychiatric progress is a step in the right direction. But there should be more frequent correspondence; there should be a greater number of corresponding members to respective national societies; delegates to national conferences should be more regular in attendance, and international convocation should be of more frequent occurrence.

That perhaps after all some good may result even from such an unfortunate affair as the Thaw trial is suggested by the sudden accession of interest which medical jurisprudence has received as an apparent direct outcome of discussion concerning the state of Thaw's mind before, during, and after the homicide, and as to his responsibility for the crime.

For a year or two preceding the trial there had already been an awakening of interest in affairs medico-legal, but during the last year not only have the old-established psychiatric and neurological societies devoted more of their programmes to debate upon criminal responsibility, but in addition new societies, composed of both jurists and physicians, have been formed in many cities, and the proceedings of these bodies, reported in both lay and professional journals, have aroused widespread interest and attention. Not only is the public thereby receiving much-needed education, but, better still, judges and lawyers are waking from the lethargy of self-satisfaction and self-sufficiency which has long characterised their attitude toward the medical aspects of crime. They are realising more fully that the law has not spoken the last word concerning the criteria of responsibility, or as to the most just and wise disposition to be made of those whose misdeeds are partly or entirely the result of inherited and acquired abnormal mentality. While there is a growing distrust of those professional witnesses whose methods have so often smacked of charlatanism, or at least of questionable morality, there is on the other hand strong evidence of a longing for competent and reliable medical advice. The indications are that the near future will see in America a reorganisation of the law and of court procedure in relation to medical evidence, with a resulting gain in both the cleanness and utility of the testimony.

But however great may be the import of recent attention to the relations of insanity and crime, still more significant is the earnest consideration of crime itself, apart from its purely medical aspects. Whoever has followed the trend of events must have noted the evidences of an increasing solicitude for matters penological, a concern which, though

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it, strictly speaking, belongs outside of the realm of medicine, has received its momentum through channels leading directly from psychiatric study. More and more is society becoming cognisant of the sinful waste of human energy going on behind our prison walls. Methods of correction, and especially the probation of first offenders, have given results so brilliant as to command instant notice and a prompt withdrawal of endeavour from the punishment of crime to its *cure*.

During the year we have been startled by the appearance in the daily papers of certain wonderful, complete, and permanent cures of dementia præcox following extirpation of the thyroid gland. On inquiry, however, it was found that these reports emanated from an over-enthusiastic and somewhat misguided assistant at a hospital in Baltimore where experiments had been conducted in the hope of finding some relief for this distressing condition. The physician-in-chief of that hospital states that the reports are greatly exaggerated, and that his assistants had all been pledged to secrecy until trustworthy data could be announced. The April number of the *American Journal of Insanity* will contain a letter giving the real facts.

We note with regret the retirement of Dr. Clouston from active service. No British alienist enjoys a higher esteem in the United States; none has done more for British psychiatry, It is to be hoped that he may have before him many years of scientific usefulness, and that his retiring pension will be commensurate with his distinction and the quality of the service that he has rendered the cause of mental medicine, and, indeed, humanity itself. It is always gratifying to American alienists to hear that their British brethren, better off in this respect than themselves, since the system of pensioning is not in vogue in the United States, have been rewarded in this manner. The only institution in this country to adopt an age limit and prescribe a pension scheme for its medical officers is the MacLean Hospital at Waverley, Mass., which is the department for mental diseases of the Massachusetts General Hospital. Our distinguished colleague, Dr. Cowles, an honorary member of your society, is the first beneficiary of this new departure.

BELGIUM.

By Dr. Jules Morel.

The year 1907 will be remembered in the psychiatric annals of Belgium.

The struggle undertaken by the Society of Mental Medicine in 1893 for the organisation of professional education for asylums was absolutely sterile. While I was asking for methodical teaching in the barrack asylums in order to have more rational observation and examination of the patients, Dr. Peeters, who was more independent by reason of his position, commenced professional instruction among the attendants at the Gheel colony. Later, he was ably assisted by Dr. Meens, attached also to the colony at Gheel. A certain number of the members of the Society o

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Mental Medicine maintained that individual instruction of the nurses by the physician was more profitable; they feared that professional knowledge would result in a state of semi-education, which would soon be forgotten and not be to the credit of the teacher. Asylum physicians were certainly ignorant of the manuals of instruction published in England, Germany, Italy, France, and the United States, otherwise they would have known at once that professional knowledge makes the attendants more intelligent, more capable of understanding their proper place as regards treatment, and more capable of appreciating medical care.

However, in 1895 the Society of Mental Medicine decided to make a trial, and MM. Peeters and Morel were directed to study the question more fully. Finally, the Society expressed the desire that such special instruction should be established everywhere.

Notwithstanding this happy decision, and in spite of the recommendation made to follow the plan laid down in the Manual of the Medico-Psychological Association of Great Britain, we felt that the new Belgian manual would not meet with that recognition hoped for by those who placed themselves at the disposal of the Society of Mental Medicine for its compilation. A circular was sent round to all the directors and physicians of the asylums asking them to subscribe to the projected work. The answers were not long in coming, and only a total of forty-three books were asked for. As a result the manual was not published.

Since then there has been a great change. Holland, Germany, Austria, Italy, England, and the United States of America have seen the birth of numerous manuals and publications devoted to the treatment of the insane.

At the International Congress on the Care of the Insane, held at Anvers in 1902, Dr. Van Deventer proposed that—"It is important that the staff to which is confided the care of the insane should receive professional instruction, both practical and theoretical. This instruction ought to be given by the medical staff of the asylum upon whom falls the supervision and control of treatment." This recommendation was adopted unanimously. Following this event two excellent works appeared, one by Dr. Meens, of Gheel, on *The Professional Education of Nurses*, and one by Dr. Van Deventer on *The Education of the Nursing Staff in the Netherland Asylums*. It is a curious fact to note that not one of those who had formerly opposed the professional instruction of asylum attendants have now a word to say against it. We should be able to reply that the success obtained in other countries has been such that not only, for example, in Holland, have 800 nursing diplomas been already given, and in Great Britain 8,900, but also that in many countries the results were such that the duration of study has been extended to three years. A point worthy of our attention and which we suppose to be the motive of those who have for so long opposed us on this question is found in a passage from Dr. Van Deventer's book, which is: "Dr. Robberten, Physician to the Asylum of Rosmalen (Condesvater), where the nursing is in the hands of a religious (Roman Catholic) corporation, made it known that the nuns of the Asylums of Bois-le-Duc, Yuckt, and of Rosmalen could not take part in the examinations organised by the Society of Psychiatry, the Bishop of Gams not having given his consent."

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In the meantime, ideas have progressed, convictions have become facts, and the advantages of professional instruction have found favour in the eyes of the authorities. Impelled by conscious need, schools for the training of nurses and attendants have been raised at the three corners of Belgium, and finally the religious authorities have given them their high protection. Concerning asylums two manuals are published; one, in the Flemish language, for the special use of the Freres de la Charitè (we do not understand why it is limited to this religious congregation, it is not to be bought in the open market); the other by Dr. Morel, is entitled, *A Manual for Nurses in Mental Hospitals.* The author suppresses the word "asylum" and treats of "lunatics" as hospital patients. In his introduction he says: "Mental diseases are diseases of the brain, which, again, are fused with other diseases, etc."

The medical service in a hospital for the insane ought to be organised in such a manner that each nurse should be able to intervene usefully in case of need in giving help to the sick. It is necessary that the probationers should first have some idea of common illnesses and certain fundamental principles of hygiene before attempting to study the treatment of the insane. But it is not sufficient to be acquainted with the books indispensable to the instruction of nurses. It is necessary also that theoretical and practical instruction should be given by the asylum physicians, who ought to be in touch with each individual probationer so as to acquire a knowledge of their physical and moral suitability, and who should be consulted in order to draw attention to such of them who do not possess those attributes essential to a good nurse. Those who fail in these respects ought not to be presented to the examiner and receive diplomas.

It is a matter of much doubt if, in Belgium, there will be accorded to asylum physicians sufficient power to make a proper choice of those anxious to become nurses or attendants. Their position is not equal to that which obtains in the greater part of the world's asylums. Although professional teaching is to be given at some of the asylums, we have not yet arrived at the point as to whether examinations will be organised definitely, or what will be the authority charged with the formation of examining boards.

FRANCE.

By Dr. René Semelaigne.

A new lunacy law.—A new law of lunacy has been recently voted by the *Chambre des Députés*, and is now being considered by a committee of the *Sénat.*

One of its provisions is that of transferring the powers of detention from the administrative to the judicial authority. At the present time when a relative wishes a patient to be received into a public or private asylum he has to present to the superintendent (1) a petition made and signed by himself; (2) a medical certificate written on stamped paper; (3) an official certificate of birth or any other paper identifying the alleged insane patient. The superintendent must send, within twenty-

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four hours of reception, a certificate to the *Préfet de Police* in Paris, or to the *Préfet du Département* in other parts of France. That officer of the Government directs a medical inspector to visit the alleged insane person. A fortnight after the reception, the superintendent sends a new certificate.

According to the new law, the procedure will be: (1) a petition of a relative, which has to be countersigned by the *Juge de Paix*, the *Maire*, or the *Commissaire de Police*; in cases of urgency such *visa* is required not more than forty-eight hours after reception; (2) a report to the *Procureur de la République*, made and signed by a medical practitioner and duly authenticated, containing all particulars and especially the date of the last visit (not more than seven clear days before the reception, instead of a fortnight as now), the symptoms and facts daily observed which constitute evidence of insanity, and a statement that the patient has to be placed under care and treatment in an asylum; (3) a paper duly identifying the person.

Such reception being provisional, the alleged insane person is placed in a special ward and remains subject to strict observation. The superintendent has to send, within twenty-four hours, a report (1) to the *Préfet* of the *Département* in which the asylum is situated; (2) to the *Procureur de la République* of the *Arrondissement* where the patient resides; (3) to the *Procureur de la République* of the *Arrondissement* where the asylum is situated. Within the three days, the *Préfet* directs a medical inspector to visit the alleged lunatic. The medical inspector immediately presents a report to the *Préfet* and to the *Procureur de la République*. The superintendent sends, a fortnight after the reception, to the two above-mentioned agents of the Government, a report on the state of the patient.

Following these formalities, the *Procureur de la République* writes his requisition, which he sends to the President of the Tribunal of the *Arrondissement* wherein the establishment is situated, and he adds the medical report on reception, the medical report of twenty-four hours and of the fortnight, and the report of the medical inspector directed by the *Préfet* to visit. The President gives an order for detention or for discharge, but if he has any doubt, if the patient, or if a relative, or a friend, oppose the detention, in such case the Tribunal has to be consulted, and there must take place an immediate investigation in *Chambre du Conseil*, or, if not satisfied, order a further examination by two doctors, one of them being chosen by the patient or his representative.

An innovation of the present law relates to Frenchmen received in foreign asylums, or foreigners detained in French establishments. No one can henceforth be taken abroad in order to be treated as insane without a previous declaration to the *Procureur de la République*, such declaration being accompanied by a medical report. When a Frenchman, being abroad, is obliged to take steps to place a fellow countryman in an asylum, he must send, within a month from the reception, a declaration to the *Procureur de la République* of the residence of the patient in France. The provisions of the law with respect to the management and administration of the estates of the insane will be applied to estates situated abroad.

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A foreigner sent to France in order to be placed in an establishment for the insane may not be received without the presentation of a petition and a medical certificate, both authenticated in his own country or by a diplomatic agent of his nation in France. If such papers are not written in French, a translation will be annexed and certified conformable to the original. Within three days of the notification of the reception, the *Préfet* will advise the Government, who will send a notice of the fact to the diplomatic agent of the country to which the patient belongs.

A similar notice will be given, within the same time, to the diplomatic agent of the native country of any foreigner, living or travelling in France, who, for his welfare or for the public safety, has been placed under care and treatment in an asylum.

The *placements d'office* or orders of reception, directly given by public authority (*Préfet de Police* in Paris, *Préfet du Département* in the other parts of France), will be submitted to the approval of the judicial authority.

According to the rules of the new law, anyone who becomes cognisant of his own mental disorder may claim to be received in an asylum, for which purpose he must make and sign a petition, and produce a paper testifying his identity, without any medical certificate, but afterwards he is subjected to the usual proceedings.

Absence on trial, which is now allowed without being legally sanctioned, will hereafter be registered and granted by the superintendent; if such absence has to be continued for more than a month, authority from the *Préfet* becomes necessary.

The law, which contains 71 Articles, makes provisions with respect to the management and administration of the estates of the insane, also for the detention of criminals and of prisoners becoming insane, and for care, treatment, visitation, etc. The *Société Medico-Psychologique* and the *Société de Médecine légale* have elected special committees in order to study the new provisions of the law, to gather suitable advice, and to report to the committee of the *Sénat* the results of such inquiry.

Pellagra and Psychosis.—Professor Regis, of Bordeaux, has carefully studied the actual conditions of pellagra in the *Départment des Landes*, which has been for so long a time the principal seat of this disease in France. During the past fifteen years, pellagra has seemed to disappear. Professor Regis does not impute the fact to the disuse of maize as a food, but he believes that it results from proper drainage of the country, from better hygiene, and from the actual condition of the inhabitants, who have been enriched by the traffic of resin and wood. The intermittent fevers, which formerly were frequent, vanished at the same time.

But the families who had suffered remained subsequently more or less impaired, and sometimes show various stigmata of degeneration, particularly a bodily or mental weakness, and an especial tendency to certain psychical disorders.

Professor Regis has recently observed two interesting hereditary cases. A woman, æt. 25, showed consecutive to puerperal eclampsia a genuine acute mental confusion; afterwards a state of katatonic stupor, with all the signs of early dementia, which finally became chronic. She came

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from two families who had suffered from pellagra, and she showed some peculiarities rather frequent in the offspring of such people, such as constitutional defects of temper and fancy, a very bad dentition, and a dull coloration of the skin.

The second case was a girl, æt. 21, native of a place where pellagra had been peculiarly severe. Charged with an infanticide, she was submitted to a medical investigation, which showed that she was not insane but had an heredity from pellagra. On her father's side, her grandfather had been insane, an aunt had been feeble-minded; another aunt, equally feeble-minded but pellagrous, had exhibited, when she was thirty years old, an acute attack of insanity, with a terrifying hallucinatory delirium and a suicidal attempt, and had died of consumption. Two other aunts had very feeble intellects and unbalanced minds; a cousin committed suicide; her father was intelligent, but vicious. On the mother's side, her grandmother had suffered from pellagra, and had shown mental symptoms; also suicidal attempt. Her mother was hysterical.

Professor Regis had recently to attend a female patient suffering from pellagra with a well-characterised pyschosis. She was a country woman, æt. 44, who entered the clinical ward for pyschiatry at the Saint André Hospital at the end of 1906. She was a native of the *Département des Landes*, but had left it twenty-eight years previously. She never made any use of maize as a food. She had been employed in tilling the ground in the sun for many years, and used to drink freely. She showed a genuine mental confusion, and during the acute stage presented repeatedly automatic *fugues*. Such leaning to *fugues* was recently noticed in pellagra. Professor Regis readily supposed that the tendency to suicide, in such psychosis, has been greatly exaggerated, and that, if the bodies of many patients suffering from pellagra have been found in the pools of the *Landes*, they were the result of accident and were drowned during an hallucinatory or unconscious vagrancy.

On the disorders of the cerebellum in general paralysis.—Drs. Anglade and Latreille, of Bordeaux, have examined the cerebellum in nearly all the general paralytics who died in the asylum of that town for seven years. Meningitis was usual, but a third of the cases did not present any other change. The pia was generally thickened, and opalescent in the middle line, on each side of which the inflammatory processes extend posteriorly and inferiorly. In such meningitis might be found, not only conjunctive inflammation, but also an inflammatory reaction of neuroglia. Meninges and cortical neuroglia simultaneously react. Only one disease, *i.e.* the idiocy from meningo-encephalitis, presents similar changes in the cerebellum.

GERMANY.

By Dr. Johannes Bresler.

The great difficulty in inducing young physicians to enter asylum work has led the German Society of Psychiatry to form a committee for the purpose of looking after the interests of medical officers as

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regards pay, promotion, etc. A meeting is to be held, and the papers read will be published in the *Psychiatrische Wochenschrift.*

The annual meeting of the same Society was held at Frankfort-on-Maine in April, 1907. The advisability of alienists being placed at the head of all institutions for epileptic, feeble-minded and backward children and reformatories was advocated. Dr. Scioli described the observation ward which has been established at the asylum at Frankfort for young people with mental trouble. The same alienist gave an account of the new colony for inebriates, also at Frankfort. The homes for inebriates used to be under private ownership and management, but the city of Frankfort was the first to set the example of attaching these to the asylum. A farm was acquired and put under the same direction as the latter. From April 1st, 1901, to March 2nd, 1906, 154 inebriates were received, of whom 92 were discharged "improved," 44 "not improved." One died, and 18 remained. The example of the city of Frankfort-on-Maine might very well be copied by other municipalities.

The treatment of mental diseases by prolonged bathing has been undertaken in the ward gardens at the asylum of Dösen, near Leipsig, and at Gothingen (see reports by Lehmann and Dehiv in *Psychiatrische Wochenschrift*, pp. 136 and 414, 1907). The result is said to be favourable. The boarding out of patients makes good progress. The city of Leipsig has adopted it by boarding cases from the asylum in the city itself. The suitable occupation of patients continues to form an interesting study as a method of treatment.

Starlinger (*loc. cit.*, p. 53) gives a full description of the "working-therapy" at the asylum of Mauer-Pehling (Nieder-Oster-reich). There he formed a clinical working party (three attendants and twelve patients) for trial of uncertain cases prior to being distributed among the general working groups.

The After-care Association continues to flourish. The Hülfsverein of the Rhine Province (President Dr. Peretti) has 10,685 members, coming from 280 cities, towns and villages.

The epidemic of religious mania with *glosso-labie*, which appeared last August and September in Hessen, has probably been reported in the English newspapers. The psychic phenomena were interpreted by the more orthodox people and clergy as divine inspiration. Now that public opinion has repudiated this suggestion another explanation has been given, which is that the victims were deluded by the devil, who imitated divine phenomena for the temptation of pious souls (*vide* Dr. Fred Jansen in *Zeits. for Religious Psychology*, No. 8, 1907).

During 1907, we had to lament the death of Professor Mendel, of Berlin, editor of the *Neurologisches Centralblatt*, and of Dr. P. F. Möbius, of Leipsig, a well-known alienist, neurologist, and popular writer. His numerous pathographic works (on Goethe, Schopenhauer, Rousseau, Neitzschke, and others) are well known in England, and have been the prototypes of many others. In his memory, there has been founded a prize, to be given biennially for the best treatise dealing with some branch of psychiatry or neurology.

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ITALY.

By Dr. G. C. Ferrari.

The new lunacy law, which prescribes public competition for all the medical posts in asylums, has caused a new fervour of serious scientific work amongst alienists. Such is not without danger, for it is quite possible that if they all apply themselves to scientific research the patients may be a little neglected, whilst they ought to remain the final aim of alienistic work, but nobody should complain of that which will increase the culture of the physicians.

A sufficiently good and vigorous sample of this culture has been given by Italian medical men, above all by the younger ones at the Congress of the Sociétè Freniatrica Italiana, which met at Venice at the end of September last. Different questions were debated and also the result of the work done in the asylums and the many psychiatrical clinics.

Amongst the general questions discussed, on the initiative of Drs. Catola (Firenze) and Pighini (Reggio Emilia), was that of the "alterations in the organic metabolism in the psychoses." The general conclusion was that as regards our actual knowledge of the biological chemistry and our methods of investigation, we are ignorant as to the manner our mental processes—normal and pathological—manifest themselves in the formulas of the organic changes. The widespread demolitions of the central nervous system induce without doubt a bradytrophism; but we have not yet demonstrated the same effect in the histological alterations which accompany the different mental diseases. It is more probable that these alterations of the metabolism, which we have met with in the different mental disorders, may be in consequence of the intoxications which determine also, it would appear, the histological alterations and the corresponding mental disorder. The future is probably with the study of the psychoses, due to disorders of certain organs (thyroid gland for example), and of the cytotoxines and anti-cytotoxines. But what is wanted above all is a revision of our methods to render them more rational, true, and scientific.

Dr. Guidi has studied the question of "the carbamic intoxication in epilepsy." It is a long time since this author began to demonstrate that the epileptic phenomenology is due to the retention in the organism of epileptics of carbamic acid; indeed, by the subministration of progressive doses of this acid he was able to produce an aggravation of the epileptic phenomena. Salerni (Verona) has tried to examine the variations in the "elimination of methyl blue in the old people, normal and insane," but he has only met with a general relaxation of all the changes. Muggia (Venice) is, on the contrary, very sceptical regarding the study of the elimination of methyl blue as an indication of the rapidity of organic metabolism, because the individual variations are always very marked. The elimination of the blue and also of chromogen is not governed by any constant law, and the appearance of the chromogen proves the existence of a process of reduction of which we are ignorant of the place of production.

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Ziveri (Brescia) has studied "the liver processes in dementia præcox," and he believes that the hepatic weakness may be in relationship with the general weakness in these cases.

Cerletti (Rome) showed microscopic preparations demonstrating special corpuscles around the vessels of the human cerebral cortex and the mammiferous differences both normal and pathological. The question is regarding little corpuscles which are half-moon, ovoid, and round in shape, with a glossy or granular surface, and which present here and there spherical condensations, but in which there is no trace of a nucleus; whereas if the brain had been hardened in formol there sometimes can be seen some short processes. These corpuscles are clearly differentiated from the cells proper to the blood-vessels, from nerve-cells, from fat-cells and neuroglia-cells, but the author will not advance any hypothesis at present.

Forli (Rome) has studied the alterations in the brain and cranium following upon circumscribed lesions of the former. He made a small trephine in the skull of a kitten and destroyed a small area of the meninges and brain substance on one side; on the other side he made a similar trephine, which injured the meninges only, as a control. Sixty kittens were thus operated upon, and at the autopsies there was demonstrated an obvious diminution in the cerebral mass. Corresponding to the diminution of one side of the cerebrum was always found imperfect development of the cerebral peduncle and of the corresponding half of the pons, while the cerebellum showed no diminution. Corresponding to this hemiatrophy of the cerebrum was found a diminution of the cranium on the same side, and a poor development of the body generally. All this, according to the author, is the result of localised destruction of the cerebrum after birth.

A burning question in these days is that of the nosography of dementia præcox of Kraepelin, and the communications on this subject to the Congress were numerous. Brugia (Bologna) denies that a psychological examination of precocious dements shows the characters of true dementia. A great part of that which seems to be destroyed is merely sleeping. The essential psychological character of dementia præcox is the separation, the general and complete discontinuity, while in true dementia there occurs the progressive meaning of the whole psychic state. From this is derived the want of precision in the term "dementia præcox," which state is not one of dementia, and which is not necessarily precocious. Clinical experience goes to prove that there exists an essential paradementia in the three forms described by Kraepelin, and a form consecutive and symptomatic. Salerni (Venezia) has endeavoured to see if there was not a difference between simple neurasthenia and the prodromal neurasthenia in dementia præcox. He believes that in dementia præcox, in the neurasthenic stage, states of doubt, so characteristic of ordinary neurasthenia, are absent. This is readily explained because it is the question of a symptom, the presence of which supposes the integrity of critical judgment, which disappears first in dementia præcox. Zanon (Udine) has studied "the degenerative characters of dementia præcox." Two only out of 182 cases examined presented no degenerative stigmata; the average number of stigmata does not vary with the form of dementia, eighteen of

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which appeared with marked frequency as in the constitutional psychoses.

Another question much discussed at the Congress was the "relationship of alcoholism to the neuro-psychopathies." Different parts of Italy give different results, because the quality of the drink is very variable, also the percentage of alcohol present. Statistics on this subject are not to be relied upon, because authors differ as regards diagnostic criterions from time to time. Montesano (Roma) states that 79 *per cent.* of the latter come from alcoholic parents. From a practical point of view the Congress decided to support the anti-alcoholic movement, and to abolish in asylums the use of wine, substituting for it water. The asylum physician has the right to prescribe wine as a medicine always considering that alcohol is always dangerous to the nervous system enfeebled by disease.

The last question which received treatment by the Congress was that of the best type of asylum—a subject of first importance in Italy, because the new lunacy law advises each provincial administration to possess an asylum for their province. The Congress stated its preference for the village plan after the type which exists at Mendrisio (Canton Tessin en Suisse), which gives to the asylum the physiognomy of a true hospital, and limits the unclimbable fence to the sections containing the dangerous, criminal, and excited patients. Tamburini (Rome) recommended the division of the hospitalisation of the insane into two —a small asylum for treatment, as in a medical clinic for acute insane, and an agricultural colony for chronic patients.

Finally the Congress expressed many views advocating the modification of certain articles in the lunacy law, articles which the practice of three years has demonstrated as inefficient. Two points were of real importance because upon them depends in part the ultimate development of the asylums, and these are as follows: The lunacy law obliges the provinces to maintain in their asylums criminals pardoned by reason of their mental disease, or who have finished their sentences in the prisons or in the "Manicomi Giudiziari" and are still insane. This article of the law has carried disorder in the asylums because the criminals, although insane, are different from the rest and are dangerous to the other patients, above all when the desire is to put hospital surroundings and influences around them. The Congress expressed the desire to have established inter-provincial asylums for the criminals, in order to isolate them from the ordinary insane. The other interesting point was that relating to the "backwards." The Congress declared that backward children are not insane in the sense required by the law, and that the provincial administrations are not responsible for their maintenance. They ought to be supported by public beneficence. Above all the Congress maintained the view that the backward ought to be protected from private speculation to which they are now abandoned, and that their treatment should be controlled by the State.

The Congress at Venice ventilated freely the ideas at present fermenting in Italy. We regret that we have not sufficient space to mention scientific work going on in other centres of Italy, such as Florence and Naples, for example, who did not take to the Congress all they could have. Of this we shall speak later.

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SPAIN.

By Dr. W. Caroleu.

Although the amount granted for public instruction in the budget is increased, yet nothing is allowed for the teaching of psychiatry in the universities. On the other hand, the omission of the teaching of comparative psychology in the last curriculum of medical study remains as a proof of the attitude of the State towards mental science.

The opening of the beautiful College of Medicine at Barcelona without any provision for psychiatrical training is a sign of the times. Some desultory lectures to medical students at the St. Bandilier's Asylum, and those given to pupils of forensic medicine at the same asylum, complete all that is done to teach mental diseases at a great Spanish university. Other universities are even worse provided.

As regards publications the year has been a fruitful one. Dr. Morini, the well-known editor of the *Phrenopathic Review*, has written a study of Dementia Præcox with statistical tables regarding his own (St. Bandilier's) asylum; Dr. Dalcerini has given us a monograph on asylum structure in general; Dr. Victorie, an interesting booklet on Insanity in the Spanish army; Dr. Barcia, a miscellaneous tract on clinical observation; Dr. Rz Mendez, a Study of Psychiatric and Neurological Treatment; and Dr. Contero, a text-book on Responsibility. In the *Phrenopathic Review*, the only one in Spain, since Dr. Dalcerini's *Annals of Mental and Nervous Therapeutics* deals with only one side of the subject, there were published valuable articles on Clinico-therapy, by Dr. Rins; on Cerebral Anatomy, by Drs. Saconella and Victorie; on Military Psychiatry, by Dr. Yuarros. As a curiosity to be found nowhere else in Spain there is an article on the English and Scottish Commissioners' blue books, and another dealing with the increase of insanity in Ireland.

The Committee of Inquiry into the cause of insanity in Spain has begun its work by sending round a series of interrogations to the asylums. The labour is meritorious though unfruitful. The certificates which come with patients show wretched confusion and scantiness of facts. The widespread ignorance of mental science among medical men, and the reluctance of families to reveal the truth, are great obstacles to the Committee's investigations. The cause of insanity is often not stated, or grossly misrepresented. The diseases are badly known, general paralytics described as alcoholics, etc., or *vice-versâ*. The case-books kept in asylums are only administrative records, and rarely is the form of insanity indicated. In short, Franetti's proposition in Spain is Utopian.

The erection of a new asylum in Gerona is to be recorded as supplying a need where there was no provision for the insane, of a scientific character, either rich or poor. The result of a meeting to elect a chief physician was a pitiable failure, indicating the absolute want of efficient medical men devoted to mental diseases. All branches of medical science are studied but psychiatry, and although a great number of young graduates proceed to Paris or Berlin to improve their knowledge of obstetrics, surgery, dermatology, or ophthalmology, yet none ever

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seem to attend the psychiatrical clinics. Theses for the degree of doctor never relate to mental disease.

Legislation regarding the insane has made no advance during the year. The last Orders in Council are of a somewhat more lenient nature, but, as usual, show a bitter feeling of animosity and hostility. Spanish law gives sanction to the absurd pretension that family care is better than asylum treatment. Cases of cruelty, unjust sequestration, and other misconduct in private care are recorded. The want of good nurses is an obstacle to good home treatment, and there is a similar scarcity in hospitals. At present nuns are mostly employed. Their state of ignorance is hardly credible. At Holy Cross Asylum, the most ancient and richly endowed in Barcelona, the Sisters of Charity during the past year only were taught reading and writing. It is no use complaining of the total absence of medical principles in such a staff, and there are no signs of improvement anywhere.

Legislation on these matters is urgently needed, but nobody seems to care. As all, except the asylums, is in the hands of the nuns' congregations the remedy is difficult, and little can be hoped from a campaign of reform on the part of superintendents and medical teachers. Only a radical change in the Spanish manner of thinking on these subjects will result in any progress or evolution.

Epitome of Current Literature.

1. Ætiology.

The Influence of Morbid Heredity in General Paralysis [*Sull' Influenza dell'Ereditarietà Morbosa Nella Paralisi Progressiva*]. (*Riv. Speriment. di Freniat., vol. xxxiii, fasc. ii, iii,* 1907.) *Fornaca.*

After a short review of the literature of the subject, the author states the results of a personal inquiry into the family history of forty-two general paralytics under his care in the Rome Asylum. In twenty-four cases he found positive evidence in the parents, in the grandparents, or in relatives in the collateral line, of insanity, or of organic or functional nervous affections, or of vascular disease of the nervous system; in ten cases no reliable data on this point could be obtained, and in eight cases such morbid heredity could be definitely excluded. In some of the cases of the last group syphilis, acquired or inherited, was traced. The cases with neuropathic heredity are recorded in detail, clinical notes being given regarding each observation, and the family history being further shown in diagrams referring to three generations.

The author concludes from his investigation that heredity is the most important individual factor in the ætiology of general paralysis, occurring in 70 *per cent.* of the cases studied by him; and he maintains, further, that the disease tends to develop at an earlier age in direct proportion to the severity of the ancestral taint. He draws particular attention to the frequency with which the disease appears in several members of the same

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family. Nine of his cases showed this condition, and he has collected thirty similar observations recorded by others. So far as any inference can be drawn from this limited number of cases, it appears that the male line suffers more than the female, and that in both the most frequent mode of inheritance is the direct, the occurrence of the disease in father and son being met with in 48·8 *per cent.* of the thirty-nine family cases, and in mother and son in 25·6 *per cent.*, while uncle and nephew were affected in only 12·8 *per cent.*, and grandfather and grandson in 7·6 *per cent.*; the cases of simultaneous occurrence in two or more children of the same family came to 20·5 *per cent.*

As regards the other factors which have been supposed to play a part in the genesis of general paralysis, Fornaca gives the following figures for his own cases; syphilis (congenital or acquired, known or suspected) in 60 *per cent.*, vascular disease in 30 *per cent.*, alcoholism in 25 *per cent.*, tuberculosis in 20 *per cent.* Suicide was noted in the ancestral history in 15 *per cent.* of the cases, and criminality in 25 *per cent.*

Particulars are also given regarding 44 children of general paralytics. Of these 17 died in infancy; 6 of the survivors presented positive and 3 probable symptoms of inherited syphilis; 2 were epileptics and 2 were microcephalic idiots, and 7 others were mentally deficient.

W. C. SULLIVAN.

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2. Clinical Psychiatry.

The Prodromal Medico-Legal Period of Dementia Præcox [*La Période Médico-légale prodromique de la Démence Précoce*]. (*L'Encephale, Fev*, 1907.) *Antheaume, A., and Mignot, R.*

Criminal and anti-social acts are frequent in cases of dementia præcox under the influence of impulses, delusions and hallucinations, that is to say, signs of intellectual weakness usually precede disturbances of the moral sense. In a certain percentage of cases, however, there is a prolonged prodromal period in which grave disorders of the moral sense are exhibited with no evidence of any intellectual defect. The authors recount illustrative cases, all of whom were predisposed to insanity by heredity. One was that of a well-educated youth who, up to the age of twenty, showed neither moral or intellectual defect. He then commenced a career of alcoholic excess, contracted syphilis and joined a band of hooligans. Pyromania, brawling, intemperance, violence, vagabondage, and pederasty preceded symptoms of intellectual weakness, which did not appear until after he had been sent to the asylum at Charenton, the case then assuming the character of simple dementia præcox. In another case quoted there was a prodromal stage of six years in which the patient lived a similar anti-social life. Following this period of moral insanity, stupor, delusions of grandeur, hallucinations and stereotypies gradually developed, revealing the true nature of the case. A prodromal period of this kind, analogous to that observed in the early stages of general paralysis, is of obvious medico-legal importance. It may be that many cases in prisons are of this type, and indicate the necessity for an organised inspection by expert alienists.

H. DEVINE.

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The Emotional Factor in Post-operative Insanity [*Stato Emotivo Gaio Post-operatorio Causa di Psichosi*]. (*Ann. di Nevrol., anno xxiv, fasc. v, vi*, 1906.) *Sanna Salaris.*

This case has been recorded by the author as a contribution to the study of post-operative psychoses. The patient was a woman, æt. 37, who had shown no previous indications of mental disorder, but who had a convergent psychopathic heredity. Thirteen days after undergoing the trivial operation of canthoplasty for entropion due to old trachoma, she developed an attack of acute mania. The operation was performed under cocaine; the only antiseptic used was boracic solution, and the bandages were removed after two days. Beyond the fact that she was highly gratified by the good result of the operation, there was nothing to note in the patient's mental state during the days immediately preceding the outbreak of the maniacal symptoms. The attack tasted seven weeks, and was characterised throughout by a striking predominance of affective exaltation. The author points out that, in view of the trivial character of the operation, there can be no suggestion that either shock or intoxication by antiseptics or anæsthetics had anything to do with producing the mental disorder. He is disposed, therefore, to believe that the pleasurable emotion aroused by the successful issue of the operation was the real exciting cause of the psychosis, this exaggerated result being explained by the patient's neuropathic heredity. W. C. SULLIVAN.

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3. Treatment of Insanity.

Trinitrine in Two Cases of Mental Disorder. (*Le Prog. Med., June 1st*, 1907.) *MM. Rémond* (*of Metz*), *and Voivenel* (*of Toulouse.*)

Without exception, say the writers, mental disorder has an anatomical basis. The ego is not an entity; disorder of the ego depends upon disease of the brain, organic or functional, as the case may be. In some instances the disease of the brain upon which the mental disorder depends is a cerebral anæmia, due to constriction of the cortical vessels; if we can modify the cerebral circulation we shall modify the ego. In certain cases of this nature, it occurred to the writers to try the effect of trinitrine, in view of the influence of this drug in producing dilatation of the peripheral vessels—an effect manifested both objectively and subjectively in various ways, among which may be mentioned a notable congestion of the fundus oculi as seen by the ophthalmoscope. The somatic disorders for which trinitrine is used, and in which it often gives considerable relief, are, angina pectoris, cerebral anæmia, neuralgia, dyspnœa in cases of chronic nephritis with contracted kidney, and nervous asthma. The two cases of mental disorder in which the writers administered this drug were, first, that of "a hysterical woman, æt. 48, suffering from hysterical mania with auto-suggestion," and secondly, that of "a woman, æt. 47, suffering from melancholia in connection with the menopause." In the former case, the patient suffered from intense facial neuralgia, with spasm of the facial muscles; she had a fixed idea that the nerves of the face had been "lacerated" or

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"dislocated" as the result of an accident, and was perpetually talking of these nerves. She had actually received a blow on the right temple from a stone, and two months later she began to suffer from right facial neuralgia, which recurred daily, the attacks lasting about an hour. Their recurrence was regarded as due to "auto-suggestion." After the illness had lasted for some years, it was treated by the administration of 6 minims of 1 *per cent.* solution of trinitrine three times daily. Improvement began immediately, and in ten days the patient no longer experienced anything beyond trifling pains in the affected region of the face, and the facial spasm had ceased; the fixed idea regarding the "dislocation of the nerves" had also entirely disappeared. In the other case, at the epoch of the menopause, the patient, apparently as the result of the removal of her husband (a general paralytic) to an asylum, had an acute melancholic paroxysm, associated with angina [? pseudo-angina] pectoris. Four days after the onset of the melancholia, treatment with 6 minims of the 1 *per cent.* solution of trinitrine was begun. After the third day, the violent sense of pectoral constriction gave place to a moderately painful sensation. In ten days, the pain in the præcordial region had entirely disappeared and the mental condition was notably improved.

It appears that the authors go too far in assuming that in either of these cases the relief of a hypothetical "constriction of the cortical vessels" had anything to do with the improvement in mental condition which followed the administration of trinitrine. In both cases, it is at least equally likely, that the symptoms of mental disorder—the fixed idea regarding "dislocated nerves" in the first case and the melancholia in the second case—were merely secondary manifestations on the part of a sensitive and unstable nervous organisation. Relief of the primary somatic disorder by the trinitrine would naturally be followed by an amelioration of the secondary symptoms of mental disorder. Moreover, this explanation does not conflict, as does that of the authors, with the law of parsimony. M. EDEN PAUL.

Annexes to Prisons, for the Sequestration of Criminal Lunatics. [*Anexe an Gefänznissen für geisteskranke Verbrecher*]. (*Psych.-Neuro. Wochenschr.*, August 3rd, 1907.) *Näcke P.*

The proper treatment of criminal lunatics is still an open question. The principal alternatives are: (1) special institutions (like Broadmoor), (2) annexes to prisons, (3) ordinary asylums. Transference of criminal lunatics to ordinary asylums is now rarely undertaken; one of the two former alternatives is commonly chosen. It seems doubtful if it is possible to lay down general principles. What is suitable for one country, or for one part of a country, is unsuitable for another. Each system has its disadvantages. For large countries special institutions may be the best; for small countries they do not come into the question. Näcke refers to a paper by Colin, "Deux Quartiers de Sûreté pour Aliénés Criminels," *Revue de Psychiatrie*, 1907, p. 177, in which the latter writes in favour of special institutions, and criticises annexes to prisons. Colin quotes the opinion of Scottish alienists, as having said: "Whatever plan you adopt, avoid trying annexes to

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prisons, and, above all, avoid anything like the annexe to the prison at Perth!" Colin formed unfavourable opinions also with regard to such annexes to prisons on the Continent, and considers the only suitable way of dealing with criminal lunatics is in special institutions, like Broadmoor. "In such an asylum" (for criminal lunatics), he writes, "is it alone possible to effect the necessary classification of cases; there alone can the patients be treated humanely, and in accordance with their special requirements; there only can the work be properly organised; from such an institution the harmless patients can be weeded out and sent to ordinary asylums, or, in suitable cases, set provisionally at liberty (libération conditionelle)." Näcke, however, is of opinion that the advantages claimed by Colin for the special institutions for criminal lunatics can be realised also in the annexes to prisons, and for this reason the system deserves a further trial, not only in Germany, but elsewhere. Still, he admits that such places as Broadmoor, Matteawan, and Dannemora are really ideal for the treatment of criminal lunatics—"of the similar Italian institutions I prefer to say nothing at all." But where small numbers of criminal lunatics have to be dealt with, annexes to prisons remain necessary, and for these the following conditions must be fulfilled: (1) The inmates must be kept under restraint in the annexe as long as they are dangerous—*i.e.*, if necessary for the whole of their life; the harmless patients can be transferred to ordinary asylums. (2) The annexe must be large enough to permit of some classification of the patients. (3) There must be provision for various kinds of work, and more particularly for garden and field work. In small towns this is easy; in large towns it will be difficult. (4) The Medical Superintendent must of course have had special experience in the treatment of mental disorders, and must be in supreme control. The objection may be made that the provision of such an annexe to every considerable prison will prove more expensive than the provision of two or three special institutions for criminal lunatics. There is some truth in this, but the advantages outweigh the objections, the advantages being the easy transfer of mentally disordered criminals from the prison to the annexe, whereby heavy expenses of transport will be saved, and also the possibility of transferring all the dangerous cases from the ordinary asylums to the prison annexes, so that it will be no longer necessary to make special provision for the management of these cases in the ordinary asylums. M. EDEN PAUL.

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4. Pathology of Insanity.

Contribution to the Nosology and Histology of Paralytic Amaurotic Idiocy [*Beiträge zur Nosographie und Histopathologie der Amaurotisch-paralytischen Idiotieformen*]. (*Arch. für Psychiat., H. i, Bd. xlii.*) *Schaffer.*

The case described at great length by Professor Karl Schaffer, of Buda-Pest, was an idiot of low grade, who reached the age of twenty-four years. The family history was not known. She was utterly help-

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less, the legs drawn up in a state of spastic rigidity. She suffered from frequent epileptic attacks, during which she bit her tongue. She was almost blind. She spoke a few words to which she attached a meaning.

The abnormalities observed in the brain are illustrated by two pages of lithographic plates. These indicated arrest of development. No anomalies were noted in the convolutions, but, on examining the inner structure of the brain, it was found that the nerve-fibres were deficient in the temporo-occipital regions, so that neither the primary nor the secondary radiations of Flechsig could be seen. The central white substance was deficient in quantity, especially in the frontal and temporal lobes. Schaffer explains the amaurosis by the failure of the optic radiations, and the idiocy by the defective apparatus of association in the centrum ovale. The fibres in the cortex, when compared with another brain, were found neither to be wanting in number nor to be abnormal in structure.

Dr. Schaffer observes that his case differs from the interesting forms of genetous idiocy which have been described by Sachs and others. Schaffer gives a clear summary of the knowledge already gained about this rare type, which he himself has also studied at first hand. Vogt considers the characteristic symptoms to be: (1) Weakness of the extremities to complete paralysis, generally diplegic, rarely paraplegic. The paralysis is sometimes spastic, sometimes not. (2) Loss of vision up to complete blindness. Through the ophthalmoscope this has been found to be owing to atrophy of the optic nerves, which in the cases described by Sachs was accompanied by the characteristic white patch in the retina at the macula lutea with a cherry-red spot in the middle. (3) Mental deficiency passing into total amentia. (4) Arrest of bodily growth, impairment of digestive functions, marasmus, and death through exhaustion. (5) The malady progresses steadily, and is accompanied by loss of smell and hearing, symptoms of disordered function of the medulla, and loss of co-ordinating power. (6) The disease follows families; by far the most of the patients described by Sachs were children of Jews.

Vogt divides this form of idiocy into two groups. In the first, the malady comes on during nursing or in the first or second year of life, and is accompanied by the patch in the macula. In the second group, the affection does not appear till from the fourth to the sixteenth year. There is an increasing dementia and blindness owing to atrophy of the optic nerves, but the spot is wanting. Vogt does not regard the absence of this patch as a reason for differentiation. He has thus an infantile and a juvenile form. Those under the last group are generally affected about school-age with loss of sight, diminution of intelligence, and motor weakness. The symptoms are slower in their progress, and the subject may remain in a moribund state for months, even for a year. These juvenile cases are not so closely confined to the race of Israel. Schaffer remarks that in eighty-six instances of the infantile type the spot in the macula was only absent in five, and in some of these instances the absence was doubtful. Schaffer tells us that in the infantile type of amaurotic idiocy there has been found a degeneration of the nerve-cells of the brain, such that has not been observed in any other disease of the central nervous system. This cystic degeneration consists in an

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increase of the inter-febrile substance, and a swelling of the body of the nerve-cells and the dendrites in the whole central nervous system, which, with Nissl's staining process, gives an intense chromolysis, so that the whole preparation encrusted with Nissl's corpuscles makes Cajal's spongioplasma conspicuous. The swelling of the cells and their processes is very decided, but it does not involve the axis cylinders, which thus appear like separate bodies.

Congenital microscopic deformities play no part in Sachs' amaurotic idiocy, of which the sub-stratum is a microscopic degeneration of the nervous tissue.

In opposition to Vogt, Schaffer considers the spot on the macula to be distinctive of Sachs' amaurotic idiocy. In conjunction with Dr. Julius Grosz and Dr. M. Mohr he ascertained that the spot on the macula persisted to the end in all the cases of this affection which they examined, and sometimes this was not accompanied by atrophy of the optic nerves.

There are other cases of idiocy complicated with blindness and paralysis which cannot be included in this form; for example, Spielmayer has described four children in one family who, up to the sixth year, were sound in body and mind; then commenced a mental degeneration passing into idiocy, accompanied by a progressive atrophy of the retina (retinitis pigmentosa). Three of these children died in the first year of puberty. The father had become infected with syphilis before the conception of these four. Another child conceived before this remained healthy.

WILLIAM W. IRELAND.

Part IV.—Notes and News.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

MINUTES of the Quarterly Meeting held (by the courtesy of Dr. Miller) at Hatton Asylum, Warwick, on Thursday, February 20th, 1908, under the presidency of Dr. P. W. Macdonald.

There were present—Drs. S. Agar, M. A. Archdale, H. T. S. Aveline, J. S. Bolton, D. Bower, Cunyngham Brown, C. Caldecott, J. Chambers, T. Drapes, J. A. Ewan, J. W. Geddes, H. E. Haynes, C. Hopkins, P. T. Hughes, A. M. Jackson, Robert Jones, W. S. Kay, H. C. MacBryan, P. W. MacDonald, G. R. Macphail, Ch. Mercier, Alf. Miller, J. H. Morton, H. H. Newington, B. Pierce, D. Rambaut, W. Rawes, H. Rayner, W. F. Samuels, E. H. O. Sankey, H. W. Smith, J. J. Soutar, J. B. Spence, Helen G. Stewart, T. S. Tuke, H. R. Turnbull, J. Turner, W. Vincent, E. B. Whitcombe, H. W. Wilcox, and Outterson Wood.

The minutes of the last quarterly meeting having been previously printed in the Journal, were taken as read and were confirmed.

The following new members were unanimously elected:

Marc Antony, L.R.C.S.&P.Irel., Assistant Medical Officer, County Asylum, Mickleover, Derby. Proposed by Richard Legge, Bedford Pierce, and Marriott L. Rowan.

Robert Cunyngham Brown, M.D.Durh., Deputy Medical Officer, H.M. Prison, Parkhurst, I.W. Proposed by O. F. Naylor Treadwell, P. W. MacDonald, and C. Hubert Bond.

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Ralf Brown, M.R.C.S., L.R.C.P.Lond., Resident Assistant Physician, "Moorcroft," Hillingdon. Proposed by Theo. B. Hyslop, R. H. Cole, and Reginald J. Stillwell.

Henry Cooke Martin, B.A., M.B., Ch.B.Edin., Assistant Medical Officer, Newport Borough Asylum, Caerleon. Proposed by Wm. F. Nelis, C. Hubert Bond, and J. Glendenning.

Macdonald Munro, M.B., B.Ch.Glasg., Assistant Medical Officer, Earlswood Asylum, Redhill. Proposed by Charles Caldecott, H. Hayes Newington, and C. Hubert Bond.

Andrew Banks Raffle, M.D., B.S.Durh., Assistant Medical Officer, Northampton County Asylum, Berrywood. Proposed by Wm. Harding, H. Hayes Newington, and C. Hubert Bond.

William Frederick Samuels, Lic.Med.&Surg.Dublin, 1905, Assistant Medical Officer, Warwick County Asylum, Hatton, near Warwick. Proposed by Alfred Miller, Conolly Norman, and Daniel F. Rambaut.

Harry Victor Walker, L.R.C.P.I., L.M., L.S.A., Ticehurst House, Ticehurst. Proposed by H. Hayes Newington, A. S. L. Newington, and C. Hubert Bond.

Factories and Workshops Act of 1907.—The President stated that before proceeding to the other business on the agenda there was a matter which had been before the Parliamentary Committee and the Council, and that the latter had decided it should be brought before the meeting. He stated that he believed it was known to all that a circular letter, under date January 27th, had been sent out from the Lunacy Commissioners' Office with regard to the Factories and Workshops Act, 1907. This matter had been before our Parliamentary Committee that day, and it had been before the Council, who had resolved that it should come before the general meeting. The position of things, he went on to say, was this: The Home Secretary, under Section 6 of the new Act, may, if he thinks fit, appoint an inspector to inspect laundries and workshops in public asylums. It was felt by many that this would not be to the advantage or for the good of public asylums, seeing that we have already one official body to inspect them—namely, the Commissioners in Lunacy. While there are those who hold strong views both ways, the President invited anyone who wished to express an opinion on the matter to do so.

Dr. Soutar gave a retrospect of a previous endeavour that had been made to bring asylums within all the purposes of the Act of 1901. That, he said, had been resisted. He strongly deprecated subjecting asylums to the inspection by another Government Department. Where there might be any doubt about a particular detail, it could readily be suggested to the Visiting Committee that the latter should obtain an expert opinion, but that would be a totally different thing to the intrusion of Factory Inspectors. He thought that this view should be expressed to the Commissioners in Lunacy.

Dr. Whitcombe stated that his own Committee were of opinion that the new Act could not refer to institutions which were used solely for the care of people who were insane. He thought that the Association should express this view to the Commissioners in strong terms; and that any supervision beyond that of the Commissioners was unnecessary.

Dr. Robert Jones thought that the Association should be very cautious how they sent such a resolution up until they were asked for one and until they knew the views of the Commissioners.

Dr. Mercier said that while expressing his respect for the Birmingham City Council he would point out that no such body was necessarily qualified to be able to interpret a dubious clause in an Act of Parliament.

Dr. Rayner thought that the discussion should centre round the question whether the change would be for the good or the harm of the institutions, and that the Association's view, whichever direction it took, could very properly be communicated to the Commissioners.

Dr. Whitcombe moved that this meeting of the Medico-Psychological Association is of opinion that no such additional inspection is desirable.

Dr. McDowall seconded.

Dr. Spence expressed himself in harmony with what had been said, and he would vote for the resolution if he could be sure that the meeting really represented the opinion of the majority of superintendents, and he pointed out that it had not been on the agenda.

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Dr. BEDFORD PIERCE hoped the matter might be deferred.

Dr. HAYES NEWINGTON pointed out that the Commissioners could not be expected to wait three months before taking action, and that now was the only chance to express an opinion. He thought that to-day's meeting was a very representative body.

Dr. TURNBULL moved the following amendment:

"That in view of the way in which laundry and other machine work has to be conducted in asylums, it is in the opinion of the Medico-Psychological Association undesirable that asylums should be brought under the provisions of the Factory Acts."

The amendment was seconded by Dr. AVELINE.

Dr. CALDECOTT was of the opinion that the Commissioners interpreted the Act as including asylums.

Dr. BOWER feared that the amendment disagreed with what the Legislature had decided.

Dr. TURNBULL: No, it is left to the Home Secretary to decide.

The amendment was carried by a large majority.

Dr. BEDFORD PIERCE suggested a further amendment, seconded by Dr. BOWER:

"That this meeting believes dual authority in respect of the supervision of asylums is undesirable; but if it be thought desirable to inspect asylum workshops in a different manner than at present, this inspection should be subordinated to the existing authority."

The second amendment was defeated, and Dr. Turnbull's amendment was adopted as a substantive resolution. The General Secretary was instructed to forward a copy of it to the Commissioners in Lunacy.

Dr. JOHN TURNER then gave a lantern demonstration, and read a paper upon "Some Further Observations bearing on the Supposed Thrombotic Origin of Epileptic Fits." In the discussion that followed Drs. Robert Jones, Bolton, and Mercier took part. Dr. Turner replied.

Dr. CUNYNGHAM BROWN then read a paper entitled, "The Boarding-out of the Insane in Private Dwellings," which he illustrated by lantern views. Owing to the lateness of the hour no discussion was possible. It was felt, however, that the points raised were so practical and interesting that the value of a debate upon them at an early date would be great.

In the evening about thirty members dined together at the Regent Hotel, Leamington, the company including several guests from the neighbourhood.

At the Council Meeting held at Hatton Asylum in the morning, on February 20th, there were present:—Drs. Aveline, Bolton, Bond, Chambers, Drapes, Ewan, Robert Jones, P. W. Macdonald, McDowall, Mercier, Hayes Newington, Bedford Pierce, Rayner, Turner, and Turnbull.

SCOTTISH DIVISION.

The HALF-YEARLY MEETING of the Scottish Division of the Medico-Psychological Association of Great Britain and Ireland was held in the Eastern District Hospital, Duke Street, Glasgow, on Thursday, March 19th, 1908.

Present: Drs. P. W. Macdonald, Baugh, Bruce, R. B. Campbell, Carswell, Clouston, Easterbrook, Graham, Hotchkis, Ireland, Carlyle Johnstone, Keay, J. H. Macdonald, T. C. Mackenzie, G. D. McRae, Oswald, Parker, Richard, Shaw, Sturrock, Turnbull, Urquhart, Yellowlees, and Hamilton Marr (Divisional Secretary). Dr. P. W. Macdonald, President of the Association, occupied the Chair.

The question of celebrating the jubilee of the present legislative system of lunacy administration in Scotland was carefully considered, and it was unanimously resolved that the following paragraph be inserted in the minutes, and that an excerpt thereof be transmitted to the General Board of Lunacy, the chairman of each of the various royal asylums and district lunacy boards, and the Secretary of State for Scotland.

"In view of the fact that it is now fifty years since the Act 20 and 21 Victoria,

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Chapter 71, came into operation, the Scottish Division of the Medico-Psychological Association resolve to record in their minutes this expression of their recognition of the great advances which have been made in Scotland during the last half century in the treatment of the insane and the scientific investigation of insanity; their acknowledgment of the humane, enlightened and generous manner in which the asylum boards of the country have provided for this most unhappy class of the community; and their appreciation of the broad and sympathetic policy consistently pursued by the Commissioners of the General Board of Lunacy in their control of Scottish lunacy administration—a policy which has not only been fruitful in the protection and promotion of the best interests of the insane, but has also done much to encourage and assist those who are more immediately engaged in carrying out their care and treatment."

Dr. MACDONALD drew attention to the resignation of Dr. Clouston from the post of Medical Superintendent of the Royal Edinburgh Asylum, and paid a high eulogium to the work Dr. Clouston had done, to his intense enthusiasm, and to the encouragement he had given to many who occupy important posts in the asylum service in the Kingdom.

The CHAIRMAN made suitable reference to the great loss which the Association has sustained through the deaths of two most notable members of the profession, *viz.* Dr. Wilson and Dr. Conolly Norman. Having dwelt on the respective merits of those gentlemen and on the great amount of good which has resulted from their labours, he moved that it be recorded in the minutes that the members learned with deep regret of the sudden deaths of two such valued friends and colleagues, and that the secretary be instructed to transmit an excerpt of the minute to the relatives of Dr. Wilson and Dr. Conolly Norman, and to convey the sympathy of the members with them in their bereavement.

Dr. JOHN CARSWELL, Certifying Physician to the Glasgow Parish Council, and Physician-in-Charge of the Insane Wards in Duke Street Hospital, gave an interesting account of the functions these wards fulfil. Dr. Carswell also demonstrated some cases of clinical interest.

The meeting was adjourned *sine die*.

OBITUARY.

DR. MACLEOD.

WE regret to record the death of Dr. Murdoch Donald Macleod, at Westwood Road, Beverley, on March 3rd.

Dr. Macleod belonged to the Morven Macleods, and was a thorough Highlander, both parents and three grandparents being Macleods. His father was the Rev. Norman Macleod, Free Church minister of North Uist, and his mother a daughter of Dr. Alexander Macleod.

He received his education at the Edinburgh High School and University, and obtained the degree of M.B. and the licence of the College of Surgeons in 1873. After being house-surgeon to Mr. Joseph Bell in the Edinburgh Royal Infirmary, he early entered the specialty of psychiatry, and went as assistant medical officer to the Cumberland Asylum at Garlands. In 1882 he was appointed medical superintendent of the East Riding of Yorkshire Asylum at Beverley, which has, under his able direction, been very greatly extended and improved. He was president of the East Yorkshire and North Lincolnshire Branch of the British Medical Association in 1886, taking as the subject of his presidential address "Puerperal Insanity," and vice-president of the Psychological Section of the British Medical Association at the annual meeting at Carlisle in 1896. He had been a member of the Medico-Psychological Association since 1873. He was a member of the Caledonian Medical Society, was elected president in 1899, and was keenly interested in Gaelic literature and romance.

Dr. Macleod was an enthusiastic volunteer and golfer; was well known in the East Riding for his geniality and his very keen interest in all sports and open-air pursuits. He was for some time captain of the Beverley Company of the Second Volunteer Battalion East Yorkshire Regiment.

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His health had been failing since 1899, when he felt symptoms of cardiac weakness and retired from the Volunteers. In 1903 he had a paralytic stroke, but he recovered from this and was again able to undertake his duties at the asylum. In June, 1906, however, owing to increasing infirmity, he resigned his post of medical superintendent, the County Council granting him a retiring allowance of £600 a year.

He bore his physical weakness with wonderful spirits, and was seen outside in his bath-chair only a few days before he died. He appears at the last to have caught an attack of influenza, from which he sank and died within twenty-four hours of the onset.

He was buried at Walkington on March 6th, the medical profession, the asylum staff, and the Volunteers being well represented at the funeral.

Dr. Macleod was in his fifty-seventh year, and leaves a widow and three sons and two daughters.

Dr. G. R. Wilson.

We record the premature death of Dr. G. R. Wilson with deep regret. A sudden attack of pneumonia carried him off in the prime of life, and bereaved his widow and two children of a singularly gifted parent. After he gained his degree (1889) in the University of Edinburgh and worked in the Queen Square Hospital, he served as Assistant Medical Officer in the Royal Asylums of Dumfries and Edinburgh. In the latter he was promoted to the rank of senior, and in course of time became Physician to the Mavisbank Asylum. In 1905 he left Mavisbank to devote himself to consulting work in Edinburgh and to open a sanatorium for nervous maladies at Newmains. This institution soon proved successful, and it was hoped that Dr. Wilson would have had a useful and prosperous career in the further practice of his profession. He was a man of many parts, and enthusiastic in his work, indeed he was engrossed in the specialised interests to which he successively devoted his attention. He was well-known to the leading neurologists of London and held in esteem by them.

He published two works on *Drunkenness* and on *Clinical Studies in Vice and in Insanity*, which gained him repute among those who are interested from the psychological and the sociological standpoints. So long ago as 1896, he produced an important paper on *Weismann's Theories in Insanity*, and he gained a medal on receiving his degree of M.D. in Edinburgh. Dr. Wilson was also a member of the College of Physicians, a man eminent in his profession, possessed of many friends, many of whom will remember him as an International Rugby player, and always the most genial of companions.

THE SECOND INTERNATIONAL CONGRESS ON SCHOOL HYGIENE.

Contributed by Robert Jones, M.D.

The Second International Congress on School Hygiene was held in London, from August 5th to 10th, under the Presidency of Sir Lauder Brunton; the first Congress having been held in Nuremburg three years before, and the next to be in Paris in 1910.

The object of these congresses is to educate public opinion as to the economic gain of recognising the prior claim of the public welfare; that the work done by efficient wage-earners of sound physique is a great asset to the State when compared with the inefficiency of the underfed and ill-developed as industrial agents. The Congress recognises that children's eyes, ears, teeth, their hours of relaxation and of sleep, their food, and their varying degrees of mental power all demand public attention.

The London Congress was opened by Lord Crewe, as Lord President of the Council, and Sir Lauder Brunton then delivered the inaugural address. The Congress was attended by numerous delegates from most countries.

The subject matter before the Congress was divided into eleven different sections, each with its own president and secretaries. As one of the secretaries of

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Section I, dealing with the Physiology and Psychology of Educational methods and work, of which Sir James Crichton-Browne was President. I spent most of my time in this section, but I was also able to attend several of the others. This section and Section VIII, dealing with special schools for feeble-minded and exceptional children, are the two which possess most interest to members of the Medico-Psychological Association. In dealing with feeble-minded children the connection between mental retardation and imperfect physical development was especially discussed. Bad home conditions, overwork out of school hours, adenoids, ear trouble and deafness were fully entered into and discussed in one or other of these two sections, and it was pointed out by several speakers that the fuller education of mothers and proper attention to the teeth, eyes, and ears would greatly lessen the evils from which children suffered in after life.

The two great objects of the Congress were (1) to urge the necessity for medical inspection of school children as recommended by the Departmental Committee upon Physical Deterioration, it being pointed out that to neglect curable conditions in childhood was to treat the sufferers later in asylums, reformatories, hospitals, and prisons, and Dr. Leslie Mackenzie took a very active part in this discussion; and (2) to draw the attention of the Board of Education to the need for teaching hygiene in elementary schools, the Provincial Committee in Scotland being announced as having already resolved to begin this in their institutions for the training of teachers.

In many countries of Europe, including Russia, and even in Chili and the Argentine, the medical inspection of school children is already compulsory; more especially is this the case in Sweden and Denmark, where the doctor confers with the headmaster and the drill instructor. Moreover, the children of the poor are attended free, and all schools are under inspection, both elementary and secondary.

The successful results which have attended the work of the Congress are already very marked, for Parliament has since enacted that medical inspection of school children shall come into force on January 1st, 1908, and it will be the task of the local education authorities throughout the country to carry this out under the control of a central medical authority in a special medical department recently established under Dr. Newman in the Board of Education for England and Wales. It is hoped that a special memorandum embodying the main principles for the guidance of the local authorities may soon be issued by the Board, and that the collated reports may be prepared for general information. It was also suggested at the Congress by Dr. Dyke Acland that the secondary schools should not be left without compulsory medical and hygienic supervision.

The Board of Education has now recognised that instruction in hygiene must in future be given in training colleges and the prefatory memorandum in the regulations for the training of teachers, and also for the examination of students in training colleges, states that the Board has under careful consideration the need for requiring the special instruction of all students in the principles of hygiene, so that they may themselves be able to give practical instruction to the scholars in this most important subject. As is known, teachers at a training college carry out a two years' course, and hygiene is included as a compulsory subject under Elementary Science, and the inspector must himself be satisfied of the competency and fitness of the teachers. But for students who take a University course, however, compulsion is not laid down, and the attention of the President of the Board of Education is to be drawn to this anomaly.

In Scotland, as stated, a course of hygiene which includes the personal hygiene of children as well as the hygiene of the schoolroom is now made compulsory upon all students training to be teachers, and it is specially laid down that there should be at least seventy hours of theoretical and practical instruction in personal and school hygiene. A lead in this direction is shown by King's College, and for the first time in London special hygiene classes for teachers have been inaugurated, and the Education Committee of the London County Council has looked favourably upon the scheme. It is not too much to expect that in future the principles and practice of hygiene should now form part of the education of every citizen.

An interesting paper was read by Mr. John Gray, Treasurer of the Anthropological Society, upon "The Importance of School Anthropometrics in the Study and Control of National Evolution." Two methods of improving the efficiency of

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a people were—(1) the Eutrophic one, which includes good up-bringing; and (2) the Eugenic, which improves the stock by selection. It was suggested that upon collected data of physical and mental characteristics, correlation between man and his environment could be calculated, and insidious processes of natural deterioration detected. He urged that the first step should be the measurement of school children.

A paper read by Dr. Francis Evans gave statistics as to deafness among 1000 children in the schools of London. One-third had some degree of deafness mainly due to throat conditions. The mental capacity of children with deficient hearing was, as a consequence of the deafness, below that of normal children, and much of this could be avided by breathing exercises and the proper use of the handkerchief.

The experience of Dr. Janet Campbell in the London County Council Secondary Schools was given. Most of the scholars there are intended for pupil teachers, and it is necessary to eliminate those likely to be unfit, and systematic inspection is carried out to maintain the standard of health at the highest level. The parents are notified as to defects, of which the most common being anæmia, lateral curvature, and round shoulders. Detail relating to the teeth, vision, hearing, the heart, lungs, and the general physique are recorded, and the co-operation of the drill mistress is considered to be necessary.

Mrs. Coghill Hawkes supported this by similar experience in the polytechnics and secondary schools for girls.

The Warden of Bradfield College, the Rev. Dr. H. B. Gray, presented a paper on the teaching of hygiene in secondary schools, and emphasised the necessity for the teaching of natural laws to boys, to ensure orderliness of conduct, both mental and physical.

Canon Lyttleton, of Eton, originated a prolonged discussion upon the comparative value of the classics, when compared with modern languages, as mental gymnastics.

Play, games, and out-of-door recreation also received attention by the Congress.

Dr. H. Kenwood, Professor of Hygiene at University College, urged that for orderliness, method, and "morale," the home and the parent could often be reached through the school and the child.

Dr. Louis de Bourdineau read a paper, showing that baths attached to the schools were provided in certain districts of Paris, and forty children per hour could be bathed therein.

The subject of tuberculosis in schools was discussed at some length, and the danger of teacher to child infection was pointed out.

The problem of "Fatigue" was discussed by Dr. Myers, and "Sleep" by Miss Ravenhill, in full, practically, and highly interesting papers.

In the eleven Sections so many papers were read, and so much discussion elicited from English, French, German, Russian, and other foreign authorities, that from this standpoint at least the Congress was a complete success. It has been impossible to do more than refer briefly to salient points. A valuable exhibition of school appliances formed a striking feature of the Congress.

NURSING EXAMINATION IN NEW ZEALAND.

The following questions set for the examination of candidates for the State qualification in mental nursing have reached us from Dr. Alexander. We referred to this new development in the last number of the JOURNAL. It is evident that the examination is at once searching and suitable in scope. The questions are justly fitted to the end in view, viz. the test of adequate knowledge in nursing.

EXAMINATION FOR REGISTRATION OF MENTAL NURSES.

20th December, 1907. *Time allowed, three hours.*

I. (1) What useful purposes do the bones serve?
(2) (*a*) What is the difference between simple and compound fractures?
(*b*) Why is one more serious than the other?

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(3) In what classes of patients are the bones brittle and therefore more liable to fracture?

(4) The patients are crowding in to dinner when one of their number falls in the middle of the passage, where he is in danger of being trampled upon: (*a*) What signs would lead you to suspect that his right femur had been fractured?

(*b*) What would you do with the patient until the arrival of the medical officer?

II. (1) Describe the heart under the following headings:—(*a*) Size, (*b*) shape, (*c*) position, (*d*) tissue of which it is mainly composed, (*e*) its divisions, (*f*) the openings leading out from and into any of these divisions, adding which of these openings are guarded by valves, and the object of the valves in each case.

(2) When a person is walking the muscles press upon the bloodvessels, and you are told that this assists the flow of blood towards the heart: Why does it not have the opposite effect?

(3) What would you do until the arrival of the medical officer under the following circumstances:

(*a*) A patient has put his fist through a window pane and severed the radial artery at the wrist.

(*b*) A patient has very bad varicose veins of the lower limbs, the pressure of which has thinned the skin, say near the calf. The patient scratches the limb in this position and ruptures a vein.

II (1) Mention the different classes of food essential for the welfare of the body.

(2) Classify each of the following articles of diet according to the class or classes to which it belongs:—(*a*) Bread, (*b*) butter, (*c*) eggs, (*d*) fish, (*e*) potatoes, (*f*) milk.

(3) Describe briefly the digestive processes to which a mixed meal is subjected (*a*) in the mouth, (*b*) in the stomach.

(4) What would you do if a patient showed symptoms of choking during a meal?

(5) Mention the classes of patients in which you have to specially guard against this accident.

IV. (1) Mention the rules and regulations referring to bathrooms and the bathing of patients therein, stating after each what you deem the reason therefor.

(2) Name the three commonest and possibly fatal disasters for which a breach of such rules and regulations may be directly responsible, and state in detail how you would act in each emergency.

V. (1) Mention anything you have been told or observed that would give you warning that certain epileptic patients were going to have fits.

(2) Describe in order what takes place during a severe epileptic fit.

(3) What is your duty towards the patient during the fit?

(4) State the characteristic symptoms of epileptic insanity.

NOTICES BY THE REGISTRAR.

Examination for the Nursing Certificate.

List of the successful candidates at the examination for the Nursing Certificate held in November, 1907.

Lancaster County (*Whittingham*).—Females: Bridget Daly, Lily Francis Johnson, Alice Dixon, Emily Swift, Maud Hassall, Annie Gibson, Annie Starkey, Nellie Young, Hannah Callaghan, Mary Dixon, Cicely Hannah Woodcock.

Lancaster County (*Rainhill*).—Males: John William Mylehreest, Philip Whiteley, Albert Mears, William Hollingworth, Arthur Hilton, Samuel Briggs. Females: Helena A. W. Oldrieve, Florence Hallmann, Alice Mary Jones, Agnes Mary Tate, Annie Maud Busfield, Amy Maria Chase, Daisy K. Longman.

Somerset and Bath (*Cotford*).—Male: Frank James Burrows. Female: Mary Jane Jefferies.

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Staffs County (Cheddleton).—Female: Florence E. Evans.

Staffs County (Burntwood).—Female: Mabel Scott.

Warwick County.—Males: William Sabin, Fred. W. Salenger. Females: May Sheldon, Hannah Heeley.

West Riding, Yorks.—Males: William John North, Harry Robertshaw, Fred. Brigg, Joe Pearson, Joseph Collins, Herbert Kempton, Joe Thornton, Arthur Weightman, Robert Hawkes, Arthur Fearnside, Arthur Kellett.

Notts City.—Male: Harry Bradley.

Bethlem Hospital.—Males: Herbert Humphreys, Thomas Pook, George Henry Woolford.

Bethnall House, London.—Male: Francis O'Reilly. Females: Alice Chapman, Emma Austin.

Caterham.—Males: Harry Howes, Charles Hy. James Cook, Thomas Prout, Charles T. Kendall, Hubert Woodward, Harry James Sumner. Females: Bessie Louisa Farrow, Constance Piper, Alice Piper, Nellie Lynds, Fanny Raggatt, Ethel May Golding.

Holloway Sanatorium.—Males: Robert Walmsley, William R. Walmsley.

Wye House, Buxton.—Male: Edward Strutt. Females: Mary Ann Oakden, Elizabeth J. B. Lockerbie, Sarah Jane Blood, Rose Pilkington.

St. Patrick's Hospital, Dublin.—Females: Annie Clyde, Kathleen Foster.

Stewart Institute, Dublin.—Female: Mary Dames.

Argyle and Bute District.—Male: Alexander Beadie. Females: Henrietta C. Munn, Elizabeth M. Fulton.

Gartloch.—Females: Margaret MacMillan, Mary MacKinnon.

Inverness.—Males: Angus Macauley, Donald Monk.

Montrose.—Male: Robert Ritchie. Females: Laura Meston Macdonald, Mary Helen Buchan.

Roxburgh District.—Females: Annie McCloskey, Alicia M. B. Keaghey.

Riccartsbar.—Female: Jessie Ann Towler.

Stirling District.—Male: Charles M. Ritchie, James Forde. Females: Kate Ley, Jessie McGavin Aitken.

Murray's Asylum, Perth.—Male: John Robertson. Female: Grace Sangster.

Morningside.—Females: Christina Ann MacLennan, Mary Anderson, Katie McDonald.

Bangour Village.—Females: Marguerite Chiney, Sarah Reynolds.

Valkenberg, S. Africa.—Males: Patrick Commins, Cornelius Fogarty, William Drysdale Gordon, Michael McKeviot.

The following is a list of the questions which appeared on the paper:

1. Describe the "insane ear."
2. What precaution should be taken in dealing with infectious disease?
3. Describe from cases in your own experience examples of—
   (*a*) exalted,
   (*b*) persecutory, and
   (*c*) depressive delusion.
4. To what class of joints does the hip-joint belong? What bones enter its formation? Of what movements does it allow?
5. Describe in detail the methods which a trained mental nurse will adopt in dealing with a patient of uncleanly habits.
6. What points require attention in feeding paralytic patients?
7. How is butter digested? How do the products of its digestion reach the blood stream?
8. How would you prepare a soft rubber catheter for immediate use? Why is it needful to take special care in its preparation?
9. Describe an epileptic fit? What is petit mal? How would you distinguish the former from apoplexy and the latter from syncope?
10. A patient in the harvest field is wounded in the ankle by a scythe and there is much loss of blood. What would you do until medical assistance arrives, when the nearest doctor is fully five miles distant?

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APPOINTMENTS.

Eager, Richard, M.B.Aberd., Senior Assistant Medical Officer to the Devon County Asylum, Exminster.

Farries, John Stothart, L.R.C.P., L.R.C.S.Edin., etc., appointed Medical Superintendent of the Sandwell Hall Asylum for the Feeble-minded, Handsworth, Staffs.

Mathieson, J. M., M.B., Ch.B., Fifth Assistant Medical Officer to the West Riding Asylum, Wadsley.

Riggall, Robert Marmaduke, L.R.C.P., etc., Second Assistant Medical Officer to the Devon County Asylum, Exminster.

Robertson, George M., M.B., C.M.Edin., appointed Physician Superintendent, Morningside Asylum, Edinburgh, *vice* T. S. Clouston, M.D., F.R.C.P.Edin., retired.

Wood, G. E. Cartwright, M.D., B.Sc.Edin., Bacteriologist to the Metropolitan Asylums Board's establishment at Belmont.

MEETING.

The next Quarterly Meeting will be held at 11, Chandos Street, on Tuesday, May 19th, 1908.

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THE

JOURNAL OF MENTAL SCIENCE

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Part I.—Original Articles.

Amentia and Dementia: a Clinico-Pathological Study. By JOSEPH SHAW BOLTON, M.D., M.R.C.P., Fellow of University College, London; Senior Assistant Medical Officer, Lancaster County Asylum, Rainhill.

PAGE

[Introduction and summary of contents . . . . . LI. 270]

PART I.

[Morbid anatomy of mental disease . . . . . LI. 284]

[Degeneration of the cerebral vessels in mental disease . . . . LI. 333]

[Influence of tuberculosis on the symptomatology and morbid anatomy of mental disease . . . . . LI. 336]

PART II.—AMENTIA.

[Introduction . . . . . LI. 508]

[GROUP I.—Idiocy and imbecility . . . . . LI. 515]

[GROUP II.—Excited and "moral" cases . . . . . LI. 523]

[GROUP III.—Recurrent cases . . . . . LI. 659]

[GROUP IV.—Hysteria . . . . . LII. 1]

[GROUP V.—Epileptic insanity . . . . . LII. 5]

[GROUP VI.—Paranoia (primary and developmental) . . . . LII. 14]

PART III.—DEMENTIA.

PAGE

[*Introduction* . . . . . LII. 221]

[*The general pathology of mental disease and the functional regions of the cerebrum* . . . . . LII. 224]

[*Mental confusion and dementia* . . . . . LII. 428]

[*Varieties of dementia* . . . . . LII. 711]

Digitized by Google

PAGE

[*Group I—Primarily neuronic dementia* . . . . . LII. 716]
[(a) *Senile or "worn out" dementia* . . . . . LII. 717]
[(b) *Presenile or "climacteric" dementia* . . . . LIII. 84]
[(c) *Mature or "adult" dementia* . . . . . LIII. 107]
[(d) *Premature dementia* . . . . . LIII. 423]
[*Group II—Progressive and secondary dementia* . . . . . LIV. 1]
[(a) *Progressive senile dementia* . . . . . LIV. 10]
[(b) *Dementia paralytica* . . . . . LIV. 22]
Group III—Special varieties of dementia . . . . . LIV. 265]
[(a) *Dementia following sense deprivation* . . . . LIV. 269]
(b) *Dementia following epilepsy* . . . . . LIV. 434
(c) *Dementia following cerebral lesions* . . . . LIV. 444
GENERAL REVIEW AND SUMMARY . . . . . LIV. 445

SPECIAL VARIETIES OF DEMENTIA.

(B) *Dementia following Epilepsy.*

THE present group contains 20 cases of "Dementia following Epilepsy," of which 12 are of the male and 8 are of the female sex.

As has already been indicated both in the introduction to this section (*Journal of Mental Science*, 1908, pp. 267–8), and also in the section on "Epileptic Insanity" (*ibid.*, 1906, pp. 5–14), epilepsy occurs most frequently in association with mental disease in those types of the latter in which cerebral degeneracy is most marked. This remark is illustrated by the following table, which shows the percentage of epilepsy in certain divisions of the 728 cases under consideration:

	Number of cases.	Percentage of epilepsy.
Low-grade amentia (idiocy and imbecility)	94	37·2
High-grade amentia	189	12·7
Dementia	445	4·5
Total	728	10·9

The writer regards both epilepsy and amentia as degeneracies, and considers the general effect of coexisting epilepsy to be harmful in all types of the latter. The epileptic idiot or imbecile is more spiteful and degraded, the epileptic high-grade ament is more vicious and impulsive, the epileptic

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maniac is more treacherous and dangerous, and the epileptic dement becomes progressively more demented, than occurs in the cases of the corresponding types of mental disease when this complicating factor is absent.

The writer has produced evidence in this paper that epilepsy may occur in association with *any grade* and even with *any type* of amentia. Though for convenience cases of amentia associated with epilepsy have been grouped separately under low-grade amentia (*ibid.*, 1905, pp. 515–523), and as a special group of "epileptic insanity," it would have been possible to have scattered them throughout the various types of amentia which have been described. Certain cases of insanity with epilepsy might be included in the group of "excited and 'moral' cases," large numbers of cases of insanity with epilepsy are "recurrent," the alternation of typical hysterical attacks with true epileptic fits has been referred to under "high-grade amentia with epileptic mania," and, finally, certain cases which, in the absence of fits, would be classed under "paranoia," are illustrated by Case 237 under "higher grade amentia with epileptic mania." The coexistence of epilepsy and mental disease, however, so profoundly influences the course of the latter, and so modifies its symptomatology in the case of the higher grades of amentia, as to necessitate the inclusion of "epileptic insanity" as one of the types of amentia, unless as an alternative "amentia with epilepsy" and "amentia without epilepsy" were considered quite separately. This, though a possible, is not a desirable clinical classification, because the majority of the examples of the higher grades of amentia, when associated with epilepsy, exhibit a sufficiently characteristic symptomatology to enable them to be classed under the term "epileptic insanity."

The facts above cited may, in other words, be regarded rather as evidence of the unity of mental disease than as indicating the desirability of regarding amentia with epilepsy and amentia without epilepsy as separate divisions of a general group of amentia.

A similar line of argument may be applied to the subject of dementia. The writer is of the opinion that dementia following epilepsy is not a consequence of epilepsy *per se*, but that it occurs in such epileptics as possess higher cortical neurones of deficient durability. Owing to the existence of certain general

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and local extra-neuronic but intra-encephalic morbid states, which result in the development of a *progressive* dementia, in some cases closely resembling that of dementia paralytica, examples of dementia following epilepsy form a fairly definite clinico-pathological group. As in the case of "amentia with epilepsy," so in that of "dementia following epilepsy," the epilepsy, however, merely accentuates the mental state and does not evolve anything new. The majority of the cases of "dementia following epilepsy" are examples of "primarily neuronic dementia" of the "senile," "presenile," "mature" or "premature" forms, in which epilepsy is a concurrent phenomenon. A few are examples of "progressive and secondary dementia" of either the senile or the paralytic form. In the case of the latter of these, owing to its syphilitic ætiology and consequent individual course, the epileptic cases are included (in the intention of the writer though not in fact, as the small number of cases of dementia paralytica does not happen to contain an example of the epileptic form), as are all the other (and non-epileptic) types from the imbecile to the "normal." In the case of the former of these, on the other hand, this course has not been adopted, since there is nothing especially characteristic in progressive senile dementia beyond the inevitably progressive nature of this type, and the senility of the cerebra and of the cortical arteries of the sufferers. Cases of "Dementia following Epilepsy" are thus conveniently grouped together under a special heading.

Few remarks are needed with regard to the cases included in this group.

The 12 cases of the male sex commenced at the respective ages of *12*, 15, *16*, 17, *18*, *25*, 27, 28, 31, *32*–, 38, and 39–. The first of these was an imbecile (slight low-grade amentia), and the others in italics were high-grade aments. Of the 12 cases, 9 were single and 3 were married, the latter being those commencing at the ages of 18, 27, and 28 respectively.

The 8 cases of the female sex commenced at the respective ages of *14*, *24*, *24*, *31*–, 31, *42*, 46 and 48. Those in italics were high-grade aments. Of the 8 cases 6 were single and 2 were married, the latter being those commencing at the ages of 31 and 48 respectively.

With regard to the symptomatology of "Dementia following Epilepsy," the writer has again and again been impressed by

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the difficulty of distinguishing between cases of ordinary primarily neuronic dementia and cases of epileptic dementia, in the absence of a history of epilepsy. This remark especially applies to cases of premature dementia, as the majority of examples of epileptic dementia occur before maturity. The chief distinguishing feature, when a series of cases is analysed, is the profound grade of the dementia which occurs in cases suffering from epilepsy. Such cases, in fact, had they not suffered from epilepsy, would probably have become ordinary examples of primarily neuronic dementia. Under the influence of epilepsy, however, the dementia, instead of remaining stationary when at the most it has advanced to the moderate stage, progresses until it becomes gross. Whilst alcoholic cases frequently exhibit a well-marked degree of dementia with extreme mental hebetude and great loss of memory, they differ from cases of epileptic dementia in being, as a rule, useful mechanical workers, who suffer from a more or less general maiming of the cerebrum, instead of an extensive dissolution of the centre of higher association with less marked affection of the regions concerned with the processes of lower association.

As a rough criterion of the severity of the grade of dementia which exists in epileptic cases which have developed dementia, it may be remarked that of the 12 males, 9 were unable to work, 2 were ordinary workers, and 1 could do a little work; and that the whole of the 8 females were incapable of employment.

The following table, which for convenience is inserted here, very roughly but graphically illustrates the relative severity of the grade of dementia in the several types of cerebral dissolution described in this part of the paper:

Type.	Workers.	Refuse to work.	Unable to work.	Total.
Primarily neuronic dementia:				
Premature	64	15	33	112
Mature	42	11	7	60
Presenile	35	13	17	65
Senile	57	10	56	123
Progressive and secondary dementia:				
Dementia senilis	4	—	20	24
Dementia Paralytica	10	4	9	23
Dementia following sense deprivation	3	—	7	10
Dementia following epilepsy	3	—	17	20
Dementia following cerebral lesions	2	—	6	8

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It will be noted that the proportion of non-workers is about the same in the groups of progressive senile dementia and of dementia following epilepsy.

The following ten cases of "Dementia following Epilepsy" are inserted as illustrative examples of the group under consideration :—

Imbecility with Epilepsy; Premature Dementia; Male, æt. 22; duration of retrogressive symptoms ten years.

CASE 701.—A. T—, male, single, of no occupation, æt. 22. Certified two years. An illegitimate child. Epileptic since the age of two years, and showed mental symptoms at the age of twelve years. Notes taken four days after admission.

A very dull and phlegmatic man who appears to be about sixteen or seventeen years of age. When the attendant is asked if the patient has had any fits the latter replies: "I ain't got nothing in here," and smiles fatuously, adding, "No more fits, never take them things." He gives his name and states that his age is twenty-one. When asked to write his name he does this in the slow and careful manner referred to in the section on "Premature Dementia," and also writes the surname first and then the christian name afterwards on the next line. When asked whether he has been to school he replies, "Got put in H— Asylum and had to do school along with 'em." He says that he has done nothing since he left school. When he is then asked about his fits he says, "I don't take 'em now," and adds, "I took fits for years; none for eight years; had 'em right on my life till then." He remarks that his mother wanted to kill him, but didn't dare to do it, and that his father also wanted to kill him with a poker. "I didn't want that thing; he ain't what I call a father; he's only a step-father to me." He does not know where he is. He came "when them men come; last week I think." He states that the day is "Thursday or else Friday" (Monday). He was at his previous asylum four or five months, "That's all I was down there" (nearly two years).

Whilst under observation the patient was unable to occupy himself, but was clean in his habits.

High-grade Amentia with Epilepsy; Premature Dementia; Male, æt. 27; duration ten years.

CASE 703.—C. J—, male, single, of no occupation, æt. 27. Certified ten years, and showed symptoms for some months previously. Notes taken four days after admission.

A dull-looking man, with a narrow peaked forehead and a rough skin. Convergent strabismus. He has a habit of performing washing movements with his hands as he sits. He gives his name in a slow drawl, and when asked his age replies, "I ain't sure of the age." He writes his name in the slow and careful manner already referred to as characteristic of premature dementia. He knows neither where he is

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nor where he has come from. He apparently has no recollection of the name of the asylum from which he has been transferred: at any rate, he states that he has not heard the name before when it is repeated to him. He knows neither the day nor the date. When asked about fits he replies, "I hev had 'em," and states that he does not know when.

He feeds himself, and can partly dress himself. He knows the way to the lavatory, and at times walks about the ward. He is entirely unemployed. He is occasionally shaky on his legs.

Whilst under observation this patient remained quite unchanged.

Epilepsy; Premature Dementia; Male, æt. 24; duration seven years.

CASE 704.—A. E—, male, single, of no occupation, æt. 24. Certified some months. He first showed symptoms at the age of seventeen, about which age his fits began. Notes taken five days after admission.

A dull man of childish appearance. Several old scars on the forehead. Pupils large and react normally. Left slightly larger than right. He gives his name, adding a second Christian name, and states that his age is twenty-four on his next birthday. When asked when he came here he replies, "We all came together between a week and a fortnight." He, however, knows the present day and the day on which he came. He calculates the interval from Thursday to Tuesday to be seven days. When asked about his fits he indicates that they are mild, as follows: "There's nothing to say of 'em, if I was to have one." He states that he was only a fortnight at his previous asylum. He says that before he went there he hawked fruit, but has no idea when that was. He says that he intends to continue this occupation when he leaves this asylum. He went to school when he was "a little nipper," and got into the "highest standard." He says (incorrectly) that he can read and write well. His attempts at arithmetic are as follows: $12 \times 11 = 24$, $7 \times 9 = 64$, $8 \times 5 = 40$, $7 \times 6 = 42$, $12 \times 11 = 64$, $5 \times 9 = 64$, $8 \times 11 = 56$, $4 \times 3 = 12$, $9 \times 2 = 24$, $4 \times 2 = 8$. It is, therefore, quite clear that he has at one time learned, but has forgotten, the multiplication table. He says that he did no work at his previous asylum, but he thinks that "If I were asked to do it I should hev to do it, I dare say."

Whilst under observation this patient looked after himself. He never did, or attempted to do, any work. He occasionally used to pick up a newspaper, but did not seem to be at all interested in its contents.

High-grade Amentia with Epilepsy; (? Presenile) Dementia; Male, æt. 45; certified seven years; showed symptoms for twenty-seven years.

CASE 705.—W. E—, male, married, farm hand, æt. 45. Certified 7 years, but had shown symptoms since the age of eighteen. Mother insane, and maternal aunt deaf and dumb and "silly." Notes taken four days after admission.

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A man of anthropoid appearance. Ears simple, pear-shaped, and without lobules. Smile happy and fatuous. He at once begins to talk in a practically incoherent manner. Name? "Yes, E—; I be the youngest one." Age? "Yes, I bin middling hearty, I ain't bin ailing like." AGE? "Pretty nigh 40." Married? "Yes, been married, wife's dead and gone, and young uns, too; I think more on 'em so I ain't troubled myself about 'em." He has had fits for several years, but "not for two years I don't think I have." What day is it? "I used to take a little physic, I did, just to keep a cold wave on me." Age? "I was born in five and twenty in February." Where are you? "At R. B—" (name unknown). Have you ever heard of H—? (the asylum from which he has come) "No I've never touched her, some says she's been about here, but I ain't seen her and I don't know her."

This patient remained unchanged whilst under observation. He was dull and quiet and uninterested in his surroundings. He at first required coaxing even to dress himself and made no attempt to employ himself, but later on became a worker of average type.

Epilepsy; Dementia; Male, æt. 66; certified twenty-seven years.

CASE 707.—A. G—, male, married, occupation unknown, æt 66. Certified thirty-nine years. Notes taken four days after admission.

A dull, heavy and depressed-looking man. His forehead is covered with vertical and horizontal wrinkes. He appears to take no interest in his surroundings, and sits down without looking at me. Whilst being examined he incessantly turns his hat round and round. He gives his name as "J. W—, from L—" (both these names are unknown). His age is "very near 60." Where are you? "Three corners off Old Road" (name unknown). When the name of the asylum from which he has come is mentioned to him he does not recognise it, and adds "I heard some talk of such a party . . . and three more besides." What time of year is it? "12 o'clock" (3 p.m.) He says that he has not yet had his dinner to-day. He recognises one of the attendants as the man who "keeps the stores." When he is asked who another is he replies, "B—r if I do."

As a rule the patient looks stolidly forwards or downwards, but at times he looks up in a dull and sleepy way. Whilst he is apparently deeply absorbed he at once looks up if he is gently touched on the hand. He replies fairly readily to questions, and, as has been indicated above, he has a habit, when he is doing such a thing as putting on his trousers, hat, etc., of passing the article from hand to hand, from the left to the right round the front, before he puts it on. He feeds himself. He never makes a move to the lavatory.

Whilst under observation he remained quite unchanged.

High-grade Amentia with Epilepsy; Premature Dementia; Female, æt. 24; certified seven years, and previously at the age of fourteen years.

CASE 713.—F. C,— female, single, of no occupation, æt. 24; certi-

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fied seven years, and previously at the age of fourteen years. Notes taken on the day after admission.

A dull, vacuous girl, with an open mouth and a vacant expression. Pupils dilated. Palate very high and V-shaped. Ears lobuleless. She gives her name and states that her age was twenty-two years last December. She speaks with a certain amount of hesitation. She does not know when she came to this asylum. She recognises the name of her previous asylum when it is repeated to her, and says that they have a home built there, that she has come from it, and that she was there "a good long time now." She informs me that previously she lived with her "gwanmother." She does not know when she began to have fits. "It makes my head so funny. I couldn't hardly tell you." When she is going to have a fit her "bosoms hurt me and my head goes." She here makes jerky movements with her hands over her forehead, and adds, "Makes my head so funny that I don't know where I am the same day I have 'em." . . . "My head is funny for two or three days afterwards." Patient is very childish and simple, very dull and listless, and quite unable to employ herself, although she can dress herself with assistance.

Whilst under observation this patient remained unchanged.

High-grade Amentia with Epilepsy; Premature Dementia; Female, æt. 27 years; duration three years.

CASE 715.—M. W—, female, single, of no occupation, æt. 27. Was previously in an asylum at the age of twenty-four years, and the present is a continuation of that attack. Notes taken two days after admission.

Patient is a dull-looking girl, who at first resisted when she was brought forward for her case to be taken. She gives her name, but does not know her age. She knows that she has been here two days. She writes her name slowly, painfully, and carefully. Her attempts at arithmetic are as follow: $2 \times 2 = 3$, $4 \times 2 = 8$, $5 \times 3 = 9$, $6 \times 2 = ?$ She spells cat "tac." She cannot spell "horse," and she says that she does not know what a horse is. She spells "cow" and "man" correctly. During this examination she stands up as if saying a lesson. Her articulation is normal, and the above replies, as does her handwriting, present the various indications which have already been described as characteristic of ordinary premature dementia. She is dull and slow and appears to know nothing about anything when she is questioned. When I have done with her she walks off and imagines that she is going home.

After five months her condition was as follows: She is on the whole quiet, and she is entirely unemployed. She dresses herself somehow and washes herself, and then requires to have her hair done for her. For from ten to thirty minutes before a fit she is excited, violent, and impulsive, strikes the nurses, and throws the furniture about. After a fit she is for at least twenty-four hours very dull, drowsy, and confused. She thinks that people deprive her of her food. She sometimes stands or wanders about the whole day, but takes no notice of anyone. When asked to do anything, *e.g.*, to play the piano, she says, "No, I'm

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not going to; I don't want to," but soon afterwards will get up and do it. She never either reads or writes. She is invariably clean in her habits.

Whilst under observation this patient remained unchanged.

High-grade Amentia with Epilepsy; Dementia; Female, æt. 32; certified one year and previously in an asylum.

CASE 716.—E. F—, female, single, of no occupation, æt. 32. Certified one year and had previously been in an asylum. Notes taken on the day after admission.

A vacant-looking girl with a pale face and staring eyes; pupils mobile: palate narrow and very high; ears lobuleless. She gives her name "same as you've got written there," pointing to my book. Age? "I don't justly know how old I am, but I had a birthday on October 3rd." She knows the day and has been living here "some time now." She went to H— (her previous asylum) in a fly yesterday when the fly went there, and she was in the train yesterday. She thinks that she went to H— (her previous asylum) yesterday, "same as the rest of 'em did." She thinks that the month is September (October), and repeats that her birthday will be on October 3rd. She came here because she had fits. She suffered from them for some time before coming here. "I never hardly knows when I have 'em. I'm taken so suddenly and knocked down on the floor." After a fit "I feel all right." After her examination was concluded and she was going away she suddenly fell down on the floor exactly like a case of hysteria.

Whilst under observation this patient was dull, listless, and unoccupied. She did very little for herself and took little or no interest in her surrounding.

High-grade Amentia with Epilepsy; (? Premature) Dementia; Female, æt. 43; certified one year.

CASE 718.—L. G—, female, of no occupation, æt. 43. Certified one year. Notes taken on the day after admission.

A dull, apathetic, and sleepy-looking woman. The angles of her mouth droop, and her hands are narrow and atrophous, and show signs of prolonged disuse. She is very dull and slow in speech and movement, and pays little attention to questions. She gives her name and states that her age is 38 years. She, after repeated requests, slowly and laboriously writes her name as an almost unintelligible scrawl. When she reaches the edge of the paper she endeavours to squeeze in the last three letters, and, failing to do this, leaves out the last two. She is very slow at imitating simple movements, and especially so when both hands are needed. When her limbs are thus placed in some position they often remain so for as long as a minute before she slowly allows them to fall to her lap. Were it not known that the patient frequently suffers from epileptic fits—for example, she had five during the night following her admission—the case would, without hesitation, be diagnosed as one of long-standing premature dementia with motor symptoms (catatonic form).

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Whilst under observation the patient remained dull and apathetic, uninterested in her surroundings, and quite unoccupied. She was unable to do anything for herself and was defective in her habits.

Epileptic Mania; Progressive Presenile Dementia; Female, æt. 54; certified six years.

CASE 720.—E. V—, female, married, housewife, æt. 54. Certified six years. Mother suffered from fits. Notes taken two days after admission.

A garrulous woman with a very scarred face. She gives her name, and states that her age is fifty-two years. She has come from "Worth Rectory. That was my home and I've always found it so." She points out one of the patients and says that she is her niece. She then informs me that Queen Alexandra has four or five daughters here, and that the nurse is her sister-in-law and Mr. J. N—'s wife. She does not know me, but asks if I took lodgings at her place when she first came away. She knows the day, and says that she could soon tell me the date if she had an almanac. She owns "this whole place. My brothers have bought the ground in front of my house here and your brother took the butcher's shop on the schools." She then begins to tell me about her family. When asked about fits she tells me that she has had two in about twenty years. She has been married sixteen or eighteen years, and has had twelve or fifteen children. "They came by anyhows. I once had three and my sister that is Queen Alexandra now helped me through with 'em, but they all died as soon as they were born. Mr. B— (name unknown) didn't like to see 'em lying about, and he used to make boxes and bury 'em. They were only tiny children and lived only ten hours, and I had three alive working under the Queen at R— Church, my own daughter, a nephew of mine, and my own son." Ten years ago she had her tongue taken out and cut off and splintered, and her husband, her brother, and herself have all been mutilated.

Five months after admission the following notes were taken: She looks a dull, miserable object. She says that she has been murdered by inches and inches for 127 years and worse for 119 years. She has a clock to prove it; the clock of her grandmother, which stood for over 1,000 years in a church. The ward clock is a church clock, and no one can claim it but herself. To-day is "Tuesday, hot-cross-bun day" (Monday, February 1st). "I will give you a clean apron on Valentine's day. I am not saucy, and give no one sauce," etc. She is very abusive, and at times uses foul language. She is violent and impulsive and a "terror." Nearly every day she swears about her food, and if she cannot at once get what she wants she throws the plates, chairs, etc., about. She is not destructive, but she is untidy in her appearance and cannot dress herself properly She never does any work. She sometimes asks for a prayer-book and then swears at it. She has very severe fits, and for two or three hours after them she is confused and violent.

Whilst under observation this patient visibly deteriorated in her mental condition, though she remained as violent and impulsive as before.

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(C) *Dementia following Cerebral Lesions.*

The present and final group contains eight cases of cerebral lesion of various kinds. They are as follows :—

	M.	F.	T.
(1) Cerebral syphilis . . .	2	–	2
(2) Other lesions (gross) :			
(*a*) Old standing (embolism, etc.)	1	2	3
(*b*) Gross vascular degeneration .	—	3	3
Total . .	3	5	8

This group calls for no especial remark beyond the reference contained in the introduction to the section (*Journ. Ment. Sci.*, 1908, pp. 268–9).

Of the cases of cerebral syphilis, No. 721 is an example of organic dementia in a man of originally defective intelligence who was aged 42, had been certified nine years, had been previously under asylum treatment between the ages of fourteen and twenty-four, and showed evidence of congenital syphilis ; and No. 722 is an example of progressive dementia, who was aged 46, had been certified one year, and showed evidence of former syphilis, gross vascular degeneration, and paralysis of the left side of the face. The father of the latter case was insane.

Of the cases of gross lesion, the male patient (No. 723) was aged 41, had been certified four years and suffered from bilateral palsy secondary to trauma. Of the five females, No. 724 was aged 45, had been certified since the age of twenty-eight, and suffered from a right-sided palsy following childbirth; No. 725 was aged 48, had been certified one year, and also suffered from a right-sided palsy ; and Nos. 726–728 are examples of progressive dementia, with cerebral lesions following vascular degeneration, and were aged respectively 67 (certified three months), 75 (certified twenty-nine years), and 53 years (certified twenty-two years).

None of the cases contained in this group are appended, as, apart from dementia, their symptomatology is individual and accidental, and their inclusion would, therefore, serve no useful purpose.

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General Review and Summary(1).

The present paper contains the final results of an investigation into the functions of the cerebrum and the physical basis of mental disease which has occupied the writer during a period of more than twelve years. The general review and summary, which follows, therefore affords him an opportunity of generally summarising the results of his researches and of indicating on the one hand in what degree they confirm and elaborate the conclusions of other workers, and on the other in what respects they differ from these.

The first paper of the series was published in the year 1900, and dealt with the exact histological localisation of the visual area of the human cortex cerebri. In this communication the cortex of the occipital region of the cerebrum was minutely investigated, and the writer histologically mapped out a definite area surrounding the calcarine fissure. This region, which he termed the "visuo-sensory area," he proved to be the visual projection sphere by a systematic micrometric examination of the whole of this and of the neighbouring cortex in normal persons, and in cases of long-standing and of congenital blindness. In the cortex surrounding the visuo-sensory area, to which he applied the term, since adopted by Campbell, Mott, etc., of "visuo-psychic," he found by the micrometric method that old-standing optic atrophy and congenital blindness caused no modification of the lamination. In this paper the writer introduced a classification of the cortical layers of the visuo-sensory area and of the visuo-psychic region (based on the existence of three primary cell and two primary fibre laminæ), which has since been largely adopted, notably by Mott and by Watson. It may further be noted that in this paper the results of the writer's later study of the mode of development of the cortical laminæ were foreshadowed in the statement, "The majority of the layers of the cortex do not vary appreciably in thickness as the result of age or chronic insanity, but there is an almost exact correspondence between the thickness of the conjoined first and second layers of the cortex (outer layer of nerve-fibres and pyramidal layer) and the degree of amentia or dementia existing in the patients." Amongst other facts which were elicited was one of primary importance with regard to the

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functions of the cell-layers of the cortex, namely, that the pyramidal layer of the visuo-sensory area develops earlier than that of the visuo-psychic region, and reaches its adult depth at the age of one month: whereas in the latter region it is less than three-quarters of the adult depth at the age of one month, and but five-sixths at the age of three months.

With regard to the delimitation of the visuo-sensory area, the writer indicated that his research confirmed the opinion held by Henschen and supported by the embryological researches of Flechsig and the clinico-pathological observations of Seguin, Vialet, etc.

In introducing his classification of the cortical layers he critically examined those of Meynert (1872), Krause (1876), Betz (1881), Leonova (1893), Hammarberg (1895), Schlapp (1898), and Cajal (1900).

Since the publication of this paper, which was the first of the kind since the important research of Bevan Lewis and Henry Clarke (1878) on the cortical localisation of the motor area of the brain, whose belated recognition has followed the experimental work of Sherrington and Grünbaum, and the histological researches of Campbell and of Brodmann, many papers dealing with cortical localisation by the histological method have appeared. Of these the chief are by Brodmann (1902–1907), Campbell (1905), W. Kolmer (1901), Hermanides and Köppen (1903), Köppen and Löwenstein (1905), Elliot Smith (1904–1907), O. Vogt (1906), Mott (1907), and G. A. Watson (1907). In these papers the whole cortex in many orders of mammals has been mapped out into various histologically different regions, but, except in the case of the visuo-sensory and motor areas, experimental or histological *proof* of the function of these areas is not yet complete. Two only of these researches call for remark here, namely those of Brodmann and of Campbell. These authors have independently mapped out into histologically different areas the whole human cortex cerebri. In only two regions, however, are their maps in complete accord, namely in the motor or Betz-cell area and the visuo-sensory area. The former of these is the area mapped out by Lewis and Clarke (1878), and the latter is that mapped out by the writer (1900). The extent of the visuo-psychic region, which was described by the writer as surrounding the visuo-sensory area, but was not more closely defined owing to

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its somewhat indefinite limits, is given so differently by Brodmann and by Campbell that it might appear that no advance had been made on his original description. A careful study of the maps of Brodmann and of Campbell in the light of the writer's special knowledge of the histological characters of several portions of the cortex cerebri has, however, convinced him that the more elaborately detailed map of the former of these investigators is the more correct. In support of this statement he would refer to the recent paper of Gordon Holmes on the histology of the post-central gyrus, in which the findings of Brodmann are confirmed. The writer is, however, of the opinion that whilst further histological research will undoubtedly enable certain other (projection) areas to be as precisely defined as have been those of the motor and visuo-sensory areas (even if Brodmann's findings in these respects should not be confirmed in their entirety), the differentiation of the remainder and greater portion of the grey mantle into equally precise areas will be attended with great difficulty owing to the probability that considerable differences exist in the case of different individuals. He nevertheless regards such precise differentiation as possible, and considers that light will in the future be thrown on the histo-pathology of amentia or cerebral sub-evolution by this means.

It may, therefore, be stated that the exact limits of the motor or Betz-cell area, and of the visuo-sensory area, are known beyond doubt, and that their functions have been proved by experimental or histo-pathological methods. As regards the less certainly defined visuo-psychic region, the associational, in contra-distinction to receptive, function of this region has been developmentally proved by the writer in the paper under present reference, and he here, from a different aspect, confirms the doctrine of Flechsig with regard to centres of association and of projection.

The next paper to which reference will be made was published in 1903, and dealt, by the method of micrometric measurement, with the histological basis of amentia and dementia. The first part of this research consisted in an attempt, which was successful, to determine whether any constant relationship existed between the macroscopic morbid appearances, which are well known to exist in many cases of mental disease, and the clinical types of insanity manifested

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by the patients. It was shown that these morbid appearances vary in degree with the amount of dementia existing in the patients, and are otherwise independent of the duration of the disease; and the following regions of wasting of the cerebrum in dementia were determined:

(1) The greatest amount occurs in the prefrontal region (anterior two-thirds or so of the first and second frontal convolutions, including the neighbouring mesial surface, and the anterior one-third or so of the third frontal convolution).

(2) It is next most marked in the remainder of the first and second frontal convolutions. (In dementia paralytica Broca's gyrus should, as a rule, be included here, and 2 and 3 should follow 4.)

(3) It is, perhaps, next most marked in the ascending frontal and Broca's convolutions, though this, in many cases at least, should follow 4.

(4) It is next most marked in the superior and inferior parietal lobules and in the first temporal convolution.

(5) It is least marked in the remainder of the cerebrum.

With regard to cases of insanity without dementia, it was indicated that no morbid appearances were present, but that small and simply convoluted cerebra were frequent. It was further shown by micrometric measurement that in certain such brains as appeared normal on macroscopic examination the cortex was markedly deficient in depth.

The second and histological part of the paper dealt with the micrometric examination of a specially selected area lying in the centre of the chief focus of wasting (1), in fœtuses, infants, normal individuals, idiots, imbeciles, cases of chronic and recurrent insanity without dementia, and cases exhibiting various grades of dementia. The writer was able to demonstrate several facts, of which the following are the most important:

The normal prefrontal cortex.—In the three normal cases examined, not one of which is likely to be developed above the average, and any one or all of which may be below this, the general average measurements of the first case are almost the counterpart of the average of the three. The difference between the several cases exists in the pyramidal layer of cells, which of all the layers is the easiest to measure accurately, and the other layers are practically of the same depth.

The development of the prefrontal cerebral cortex.—The pre-

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frontal cortex begins to laminate about the sixth month of fœtal life by the separation off of the polymorphic layer (5), and the inner line of Baillarger (4), both of which layers are very little below (three-fourths of) the normal depth almost from the first. The layer of granules (3) next develops, and at the period referred to is only about half the normal depth. At this time the pyramidal layer (2) is only one-fourth of the normal depth. At birth the pyramidal layer is still little more than half the normal depth; the granule layer (3) has now become three-fourths of the normal, and the fourth and fifth layers are as before (rather more than three-fourths of the normal depth).

The prefrontal cortex of congenital amentia.—Degrees of under-development, general and local (*i.e.*, with regard to position in convolution, not to position in cerebrum), exist, which vary inversely with the mental power of the individual concerned.

The prefrontal cortex of chronic insanity without dementia.—In these cases under-development of the pyramidal layer of nerve-cells exists, the other layers being approximately normal.

The prefrontal cortex in dementia and dementia paralytica.—Degrees of wasting exist which vary directly with the amount of dementia present. When the mental power of the patient is as that of the new-born child, all the cortical layers are approximately in the same condition as in the latter.

Amentia and dementia.—In many cases amentia undoubtedly co-exists with dementia, but as a whole the greater the amentia the less is the dementia co-existing, and *vice-versâ*, as the less highly developed the neurones the greater is their relative durability, and the less is the injury produced by the slight "stress" which is necessary to affect them, whilst, on the contrary, highly developed but deficiently durable neurones, to be subjected to a breaking strain by "stress," require it in their case to be so great that rapid degeneration results. This degeneration only becomes extreme in those cases in which severe vascular affection is present.

As a consequence of these results the writer was, therefore, enabled to formulate the following conclusions with regard to the functions of the cortical cell-layers:—

The layer of polymorphic cells (5) is the first to be differentiated during the process of lamination, and it is the last to fail in the retrogression of dementia. A decrease in this layer

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exists in extreme aments (normal or otherwise), and in dements who are unable to carry on the ordinary animal functions, such as attending to their own wants, etc. *This layer, therefore, probably subserves these lower voluntary functions of the animal economy.*

The granule layer (3) is developed after the polymorphic layer. In the visuo-sensory area the optic radiations end in the midst of the hypertrophied and duplicated granule layer. *This layer, therefore, probably*, reasoning by analogy, *subserves the reception or immediate transformation of afferent impressions, whether from the sense organs or from other parts of the cerebrum.*

The pyramidal layer (2) is the last layer of the cortex cerebri to develop, and it is also the first to undergo retrogression in dementia. It is the only layer which appreciably varies in depth in normal brains; the degree of its development in normal infants and in congenital aments varies directly with the mental power of the individual, and the degree of its retrogression in demented patients varies directly with the amount of dementia existing in the patient. *This layer, therefore, subserves the "psychic" or associational functions of the cerebrum.*

The first and fourth layers of the cortex cerebri, being primarily cell-process layers, do not need further reference in this connection, although it is not denied that the relatively small number of cells which, in the adult state of the cortex especially, are contained in these layers, may and probably do possess important though minor functions in the process of cerebration. In the psycho-motor area, for example, the Betz cells, which really belong in the opinion of the writer, to the fourth layer or "inner line of Baillarger," and are therefore not "pyramidal" cells at all, constitute the origin of the important efferent tract for skilled voluntary movement. Probably the "solitary cells" of Meynert in the occipital cortex possess a somewhat analogous function, and perhaps the same may be said concerning the more or less pyramidal-shaped cells which lie in layer 4, or the "inner line of Baillarger," in other regions of the cerebrum. One is probably hardly justified in assigning a function to the few cells which lie in the first or superficial layer of the cortex cerebri, but perhaps, reasoning on general grounds, it is not unfair to suggest that they possess associational functions similar to those of the pyramidal layer above

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which they lie, and with which, in order of time, they appear to be developed.

In a further communication, also published in 1903, the writer applied his results to the question of the functions of the frontal lobes. He remarked: "The anterior centre of association of Flechsig is the region concerned with attention, and the general orderly co-ordination of psychic processes; and the cellular elements throughout the cortex, which are especially concerned in the performance of associational functions, are those of the pyramidal layer of nerve cells"; and, "The pyramidal layer, therefore, subserves the 'psychic' or associational functions of the cerebrum. This is pre-eminently the case in the prefrontal region, less so in the visuo-psychic region, and least of all in the visuo-sensory region. *These three regions are, therefore, of different grades in the hierarchy of cerebral function.*"

The writer is thus in agreement with Flechsig with regard to the existence of centres of association and of centres of projection, but, as the result of his researches, he defines *three* grades in the hierarchy of cerebral function, namely: (1) centres of projection, of which the visuo-sensory area is a type; (2) regions of lower association, of which the visuo-psychic region is a type; and (3) the centre of higher association, co-ordination, and control, which is situated in the prefrontal region.

The writer thus differs from both Flechsig and Bianchi in recognising three grades of cerebral function, in place of the projection and association areas of the former, and the perceptive and conceptive centres of the latter.

He will now refer to the important paper by Watson (1907) on the mammalian cerebral cortex, which, from the phylogenetic aspect, forms the complement of the ontogenetic conclusions which the writer published in 1903 with regard to the mode of development and functions of the primary cell-laminæ of the cortex cerebri. In this paper Watson has mapped out the cortex cerebri of certain insectivores into histologically different regions, and he has confirmed the work of the writer on the order of development of the primary cell-laminæ of the cerebral cortex, and as regards the functional significance of these. Watson's conclusions, in brief, are as follows:

"The foregoing data support the following conclusions, which apply only to *mammals*, and which form, from the point of

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view of the Insectivora, and of the lower mammals belonging to various other natural orders so far examined, a complement to those arrived at by Bolton, as the result of his studies of the development of the human cerebral cortical layers, and of their depth in the adult normal individual as well as in various degrees of amentia and dementia.

"(1) The infra-granular portion of the cortex (4 and 5) (omitting the constituent cells which possess motor or analogous functions) is concerned especially with the associations necessary for the performance of the instinctive activities, that is, all those which are innate and require for their fulfilment no experience or education. These form the basis of many complex actions necessary for the preservation of the individual and the species, such as the seeking appropriate shelter and protection, the hunting for food—each after his own kind—and the quest of the opposite sex. . . .

"(2) The supra-granular (pyramidal) layer—which is, relatively to the infra-granular cortex, so poorly developed at birth—is slow in reaching maturity, and is, even at its best, in certain lower mammals, such as the Insectivora, only of an insignificant absolute depth, subserves the higher associations, the capacity for which is shown by the educability of the animal. It has, therefore, to do with all those activities which it is obvious that the animal has acquired (or perfected) by individual experience, and with all the possible modifications of behaviour which may arise in relation to some novel situation, hence with what is usually described as indicating intelligence as apart from instinctive acts, the former being not merely accompanied but controlled by consciousness (Lloyd Morgan).

"In practical animal behaviour the two sets of processes are probably more or less constantly interwoven, the higher activities (supra-granular layer) coming to the aid of the lower as far as the capability of the animal allows. In the case of the lower mammals (*e.g.*, Insectivora), the limits of this capability are comparatively soon reached, and correspondingly these mammals possess a relatively poor supra-granular layer. . . .

"The infra-granular layers thus constitute the earlier developed and more fundamental associational system of the cerebral cortex; the supra-granular layer, a higher and accessory system super-added, and of any considerable functional importance only in certain regions in lower mammals, such as the Insectivora."

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The writer will now generally review his present paper, which, whilst it summarises, and in places provides further data with regard to, his previous researches, is mainly devoted to the application of these to the subject of mental disease.

The paper consists of three parts, of which the first (April, 1905) is devoted to the verification and amplification of his conclusions with regard to the correlation of the various clinical types of mental disease with the morbid appearances found in such cases after death. For this purpose the earlier 200 cases have been increased to 433 with substantially identical results.

As the result of his clinico-pathological and histological studies the writer enunciated a provisional classification of mental diseases, in which he used the term *amentia* to, in the widest sense, connote *the mental condition of patients suffering from deficient neuronic development*, and the term *dementia* to similarly connote *the mental condition of patients who suffer from a permanent psychic disability due to neuronic degeneration following insufficient durability.*

The term *amentia* as thus defined covers a much larger group than that indicated by the terms *idiocy* and *imbecility*, and includes all cases possessing a general or special developmental deficiency which may become evident either with the dawn of psychic life, or at such critical periods as early childhood and school-life, puberty, adolescence, marriage, maturity, childbirth, the climacteric, etc., at any one of which the degenerate may fail to respond normally to his environment and may show his or her inherited deficiency.

The class may be grossly divided into two subdivisions, namely *low-grade aments*, or idiots and imbeciles, and *high-grade aments*, in whom the developmental deficiency becomes evident at or after puberty. In the case of the latter group, apparently complete recovery of a permanent or a temporary nature may occur, a stationary condition of insanity without appreciable dementia may follow, or at once or later a varying degree of dementia may ensue. These patients usually show more or less marked stigmata of degeneracy, and, in the case of the first two sequelæ referred to, *post-mortem* examination of the cranium shows no abnormality of the intra-cranial fluid or membranes, apart from those associated with the local or systemic diseases which are the cause of the fatal issue.

The term *dementia*, as defined by the writer, is also applied

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in a somewhat different manner from that sanctioned by common usage, in that it refers to a *permanent* psychic disability due to neuronic degeneration, and not to a loss of mental power, which may be temporary or permanent. He employs the term *mental confusion* to connote the symptom-complex, which occurs in many acute cases of insanity, and which is not peculiar to what is commonly described as Korsakow's disease or "polyneuritic psychosis," but occurs to some degree not only in many cases which recover, but in all cases which are developing dementia.

Onset of mental confusion.—As in the highest grades of pure amentia, so in all cases associated with mental confusion, the time of onset of the attack (*i.e.*, when the potential lunatic becomes an actual one) depends on "stress" in the very widest sense, and including the specific causes of mental confusion which are enumerated in the section under remark. The "stress" required may be slight, as when the hereditary disability is marked, in which case the patient rapidly enters an asylum and either recovers, often only to relapse, or remains a permanent inmate; or it may be extremely great, as in the highest psychopaths, where syphilis, alcoholic excess, a generally irregular life, and the severest business strain and worry may be needed, in which case an extremely rapid case of dementia paralytica is likely to ensue; or any intermediate degree may be necessary to determine the breakdown.

Development of dementia.—In the more lowly aments the neurones are relatively stable, as their functional power is so slight that "stress" cannot intervene to any dangerous extent, and consequently these cases do not, as a rule, develop dementia, especially as they frequently die before (premature) senile involution of the cortical neurones occurs. On the other hand, in higher degenerates of any grade whose neurones suffer from deficient durability, it may almost be considered a general law that the higher the development of the neurones, the greater is the degree, or at any rate the more rapid is the progress, of the dementia which results when "stress" has determined the time of onset of the insanity. Until senility occurs, or apart from vascular changes due to whatever cause, the dementia is never severe, the ordinary chronic lunatic with moderate dementia being the common result. It is, however, probably correct as a general average statement (excluding

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dementias ensuing on mental confusion following the indirect action of toxines) to remark that the dementia of puberty and adolescence is severer on the whole than the dementia of maturity, and this, again, than the dementia of presenility (*e.g.*, climacteric melancholia, etc.). The primary cause of the development of dementia is thus a deficient durability of the cortical neurones. If this decrease in durability is slight, neuronic degeneration ensues in old age; if it is more marked, it occurs at the climacteric; if it is still more marked, it will appear at maturity; and if it is very marked, it will appear at adolescence or even puberty. On the other hand, in amentia the deficiency is developmental, though in many aments deficient durability also exists, and the mental condition thus often becomes a mixed one owing to the development of dementia in a high-grade ament or in one of the milder types of low-grade amentia.

The second and third parts of the present paper deal, chiefly from the clinical aspect, with "Amentia" and "Dementia" respectively. The data employed, apart from occasional special illustrative cases, are derived from a study of 728 chronic or recurrent lunatics admitted into the East Sussex County Asylum, Hellingly, during the first seven months after the opening of the institution. Practically all the cases were transfers and all were chargeable to the different unions of East Sussex.

These cases were grouped as is shown in the following summary:

AMENTIA.

	M.	F.	T.
(I) Low grade (idiocy and imbecility, primary and secondary, with or without epilepsy) . . .	51	43	94
(II) Excited and "moral" cases . .	22	64	86
(III) Recurrent cases . . .	17	30	47
(IV) Hysteria	—	6	6
(V) Epileptic insanity . . .	6	18	24
(VI) Paranoia (primary and developmental)	10	16	26
Total amentia . .	106	177	283

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DEMENTIA.

	M.	F.	T.
(I) Primarily neuronic (age, "stress" or both):			
(*a*) Senile or "worn-out" dementia	53	70	123
(*b*) Presenile or "climacteric" dementia	18	47	65
(*c*) Mature or "adult" dementia (chiefly from intemperance, syphilis, childbirth, etc.) .	26	34	60
(*d*) Premature dementia (approximately "dementia præcox") .	57	55	112
(II) Progressive and secondary:			
(*a*) Dementia senilis . . .	9	15	24
(*b*) Dementia paralytica . .	14	9	23
(III) Special varieties:			
(*a*) Dementia following sense-deprivation	6	4	10
(*b*) Dementia following epilepsy .	12	8	20
(*c*) Dementia following cerebral lesions	3	5	8
Total dementia . .	198	247	445
Grand total . .	304	424	728

The second part of the paper deals with the subject of amentia. The section on low-grade amentia (idiocy and imbecility) calls for no remark here. Those on "excited and 'moral'" and on "recurrent" cases, however, deserve consideration owing to the fact that they include, as part of their contents, the whole "maniacal-depressive" group of Kraepelin, which has of late attracted so much attention.

In the former of these groups are contained the following general types: (*a*) "moral" cases; (*b*) simple "emotional" chronic mania; (*c*) chronic mania with incoherence and delusions; and (*d*) "cranks and asylum curiosities." About three-quarters of the cases are of the female sex, the proportion varying from 8 : 1 in class (*b*) to about 3 : 2 in classes (*a*) and (*d*).

The cases in these clinical classes respectively show the following prominent characteristics:

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(*a*) *Alteration of moral sense*, with a tendency to do desperate things, *e.g.*, to commit suicide or even homicide, to perform acts of self-injury or self-mutilation, to strike, smash or destroy, to intensely irritate those around them, to be sexually inclined in a normal or abnormal manner, etc.

(*b*) *Alteration of emotional and intellectual control*, *e.g.*, exuberance, instability, vanity, garrulity, childishness, and often violence, treachery and destructiveness. The younger and adult types usually display a more or less marked loss of control over the emotions and instincts. The older types differ from these in the fact that the loss of control affects chiefly the intellectual functions. Their association of ideas is normal, except for its extreme rapidity and complexity. They talk continuously whenever a listener can be found, and they are frequently inconsequent, and show a marked tendency to parenthesis during their descriptions.

(*c*) *Rapid and uncontrolled association of ideas*, with delusions of grandeur, which may or may not co-exist with or follow delusions of persecution. These cases form a half-way house between classes (*b*) and (*d*), and shade gradually into each of these. They differ from the former in being on the whole less troublesome, and in showing an apparently complete incoherence in their association of ideas, and from the latter in the fact that their ideation is simply rapid and uncontrolled, rather than grotesque or symbolical, and resulting in erratic and eccentric conduct.

(*d*) *Stereotyped, symbolical, or grotesque association of ideas*, which leads to weird actions and eccentric general behaviour. These cases are extremely conceited, vain, and grandiose. They are of many types, and may be simply asylum "show-birds," or may possess considerable artistic or intellectual talent. As a class, these cases only differ from certain "sane" individuals in the absurd and grotesque extremes to which they carry their ideas, and their resulting behaviour and actions; and their stereotypism, which often suggests dementia, also only differs in degree from the stereotypism and prejudice which are often seen in the "cranks" of the outside world.

In the latter of these two groups are included all types of "recurrent" case, whether these are still capable of "recovery," or have become permanently insane asylum inmates. About two-thirds of these cases are of the female sex.

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The writer would remark in this connection that he is unable to regard mania and melancholia as simple and opposite emotive states (the view of the supporters of the "maniacal-depressive" generalisation [Deny and Camus]), though mere excitement and depression may be such. Mania, whilst at times outwardly indicative of general exaltation of cerebral function, is more often a sign of decreased activity of the higher controlling and latest evolved portion of the cerebrum. Melancholia, on the other hand, whilst it is indicative at times of recuperative general depression of cerebral function, or of impending loss of higher cerebral control, is more often a sign of the onset of permanent general depression of cerebral function, and is thus the objective evidence of impending or developing (presenile) involution of the cortical neurones. With regard to "mania," he would remark that the possessor of one of the finest intellects he has met with was insane, and in a condition of permanent and uncontrolled exaltation of cerebral function. He had earlier in life been a university professor, and a near relative had attained to eminence. This individual might be regarded as the owner of a cerebrum which was too elaborately developed to be properly controlled in its existing stage of evolution. Such brains, working under proper control, may be common in the far distant future. From the normal aspect, it is well known that fine pieces of work have been rapidly done whilst their authors were so intensely absorbed as to be practically in a condition of general cerebral exaltation or mild "sane" mania, for which, however, the subjects had afterwards to suffer in recuperative depression of the cerebral functions. The higher types of recurrent insanity thus grade upwards towards the cerebral hyperactivity of genius, whilst the lower types grade downwards into the analogous cases who are never really sane, although they may legally pass as such. In conformity with these opinions it may be remarked that, cases which develop dementia being excluded, the experience of the writer has convinced him that the greater the degree of cerebral degeneracy the less evident is depression as a symptom or a phase of symptomatology, and *vice-versâ*. Melancholia is, therefore, pre-eminently a characteristic of the latter (recurrent) group, and is of subordinate importance, and often entirely absent, in the case of the former (permanent) group. The writer has, in fact, often noted that cases which at one time

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were "circular" have later on partially or entirely lost the phase of depression, and he is disposed to regard this phase, when post-maniacal, as to some extent indicative of a still possible return to the "normal."

It may be remarked that in the "excited and 'moral'" and the "recurrent" types of amentia, the functional disturbance of the cerebrum is of a relatively low order, and, considered from the general aspect, involves (1) decreased action of the higher and latest evolved cerebral functions of control and co-ordination, which results in abnormalities of *immediate* cerebral activity, and in consequent emotional and psycho-motor disturbances of various kinds, and (2) in addition, in the more degenerate types, generally aberrant and subnormal cerebral activity. In other words, the cerebrum, as a machine, is working in a defective manner, and all the "functions of mind," and not merely the emotions, are involved. This abnormal form of cerebral activity is, however, of an *immediate* type, and *does not to any extent involve the revivication of complex and time-related portions of the subconscious content of mind.*

In the case, however, of hysteria and epilepsy, which subjects are dealt with in the succeeding sections, whilst at times the sufferer may be insane owing to loss of higher cerebral control, the symptoms are frequently due to an alteration of personality. This may be conveniently defined as a mental state in which the higher cerebral functions are exercised, not over psychic processes founded on such recently acquired time-related portions of the content of mind as constitute the normal personality, but over psychic processes founded on complex and time-related portions of the subconscious content of mind, which exhibit such abnormal prominence as to entirely replace for the time those recent experiences on which normal cerebral activity depends. In such cases not only one, but several such time-related portions of former experience may separately acquire abnormal prominence and thereby give rise to the phenomena of multiple personality. In the normal individual, on the other hand, the recent time-related personality cannot be voluntarily subordinated, and all that is possible in this direction is the occurrence of some degree of associational elaboration of former sensori-memorial images, which is always imperfect and often incorrect.

In the case of paranoia, which constitutes the last type of

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amentia, the mental condition is somewhat different. The personality is altered, but this alteration is due, in the developed state, to the permanently abnormal prominence of certain time-related portions of what should be part of the subconscious content of mind. These particular time-related experiences serve as a basis on which develops a continually increasing aggregation of abnormal psychic units. In other words, in place of the normal gradually changing personality, a certain former personality remains as a permanent basis on which is built up a continually increasing abnormal psychic edifice. In such cases, when they have become "chronic," it is probable that the greater part of the available psychic content consists of symbolic verbal groupings which have become relatively stable through frequent repetition, and that the processes of cerebral association required for the re-integration of the former concepts and percepts which these verbal groupings symbolise, and for the revival of the old sensori-memorial images, are markedly reduced (see remarks on the significance and functions of language, pp. 467–469). These symbolic verbal groupings continue throughout the life of the sufferer to entirely dominate what would otherwise be relatively normal processes of *immediate* cerebral activity, and in this, in effect though greater in degree, resemble the "opinions" of many of the one-idea-ed "cranks" in the outside world.

The writer has here limited himself to expressing his views as to the type of deviation from normal cerebral function which exists in hysteria, epilepsy and paranoia, as he considers that a mere summary of the contents of the respective sections would not serve a useful purpose. He therefore refers the reader to the actual sections for specific details regarding his views on these types of amentia.

He would, however, remark that though all the above types of high-grade amentia can for convenience be separately described, the normal mind is nevertheless one and not several "functions of the brain," and amentia is also one and not several kinds of subnormal or subnormally aberrant mental function, which in different cases merely varies in degree and not in kind. In consequence, whilst all the types of amentia which he has described may be recognised *as types*, cases of an intermediate nature exist between each of these. For example, in many epileptic high-grade aments hysterical attacks may

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occur during the day and typical epileptic fits during the night. In conformity with this view, the writer has indicated, throughout the description of high-grade amentia, that amongst "normal" individuals sane homologues of all the types of high-grade amentia are common.

In the third and most lengthy portion of the paper is considered the subject of dementia.

The first section, which deals with the general pathology of mental disease and the functional regions of the cerebrum, need not here be referred to, as it merely generally summarises and in places elaborates the conclusions of the writer which have been already dealt with.

The next section is concerned with mental confusion and its relationship to dementia. The term "mental confusion" is employed to connote, in the broadest sense, the mental symptoms which occur in association with certain pathological states of the cortical neurones which may be followed by the recovery or by a more or less extensive dissolution of these elements. The writer indicates his opinion that *dementia never develops except in such cases as have suffered from a more or less severe grade of the mental confusion which is its necessary precursor.* After a reference to the causation of mental confusion, the symptomatology is described and critically discussed, and it is pointed out that *all the various types of mental confusion* (whether occurring in recoverable cases, in any of the classes of primarily neuronic dementia, in progressive senile dementia, in dementia paralytica, etc.), *conform in reality to a standard description, and in their essential characteristics are one and the same morbid mental state.* The slighter cases, when due to the direct action of toxines (*e.g.*, the less severe types of "polyneuritic psychosis," "puerperal confusion," etc.), recover: the more severe develop dementia, as do all cases due to permanent causes, or occurring in consequence of mere deficient durability of the cortical neurones. Whilst clinical observation may not necessarily enable a definite prognosis to be made as to whether any particular case is presumably recoverable or not, certain symptomatological indications of the likelihood of the development of, or of the actual existence of, dementia, are frequently present. This question is fully discussed in the section under reference.

The writer desires to draw especial attention to the above generalisation with regard to mental confusion and dementia,

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owing to its fundamental importance in relation to the unity of mental disease, as on the one hand a condition of Amentia from cerebral sub-evolution and on the other one of Dementia from cerebral involution or dissolution.

The remaining portion of this part of the paper is devoted to a classification of the varieties of dementia. The first group of "primarily neuronic dementia" is divided into the several classes of "senile or 'worn-out' dementia," "presenile or 'climacteric' dementia," "mature or 'adult' dementia," and "premature dementia." These different classes are fully discussed in the several sections, and, except in the case of premature dementia, need little reference here. The senile class naturally includes many types of high-grade amentia who are suffering from cerebral involution. Such maniacal presenile cases as have developed dementia, and which Kraepelin would class under "maniacal-depressive insanity," are necessarily included in the presenile class, as are the cases of presenile melancholia with dementia, which, after Dreyfus, would also be included under "maniacal-depressive insanity." It may finally be remarked that the cases of mature dementia for obvious reasons, since maturity is the period of maximum cerebral activity, are largely induced by intemperance, syphilis (*mild* dementia only), childbirth, etc.

The "premature dementia," which is discussed and illustrated at considerable length, is not synonymous with the "dementia præcox" of Kahlbaum, of Pick, and of Kraepelin, but includes premature dements only. Though the conventional clinical subdivision into types is followed, the writer endeavours to explain on general grounds the characteristic phenomena which form the basis of this. He considers in brief that the cause of these phenomena is to be found in an immature condition of the centres of association of the cerebrum.

In cases belonging to the previous classes of "senile," "presenile," and "mature" dementia, whatever be the respective degrees of involution or dissolution which later on result, the centres of association, both lower and higher, have by frequent repetition necessarily acquired a capacity for relatively stable neuronic groupings as the physical basis of the psychic processes performed by the respective patients; and this statement especially applies to the neuronic groupings in the psychomotor area, which serve as the physical basis for the perform-

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ance of "skilled" voluntary accomplishments. In other words, in these classes, considered for the moment from the purely physical aspect, the cerebra are completely built and thoroughly tested machines in full running order at the time when the breakdown is precipitated by too rapid running or by "wearing out."

In the case of the class of premature dementia under consideration the state of affairs is very different. Here there is, in the first place, a highly deficient durability of the cortical neurones; or, to continue the simile, imperfectly tempered material has been employed for the construction of the parts, and the neurones, or the parts themselves, are in many instances imperfectly constructed. Further, though most of, or all, the individual parts are placed in preparatory juxtaposition, even the simpler complexes of construction have only recently and experimentally been grouped into series. This is, in fact, the case even in the more highly endowed patients, in whom the higher complexes of neuronic association have already been tentatively produced.

It is thus only to be expected that, when such a machine is set running at high speed, all kinds of local breakdown will ensue. In the human cerebrum, owing to a structure which in its complexity of construction overshadows any machine of human manufacture, and to the numerous sources of motive power which exist through the medium of the different varieties of sensorial stimulation, complete breakdown is relatively rare, though local stoppages, local anomalous groupings of the simpler complexes, and particularly local repetitions or irregularities of action, are of common occurrence. This is especially obvious, though not peculiar to these, in the case of the more fundamental motor exhibitions, the patient either performing, or not performing, or often repeating, certain actions, and exhibiting, as the essential characteristics of these motor performances, on the one hand a tendency to uncertainty, and on the other a tendency to repetition, of action.

In the case of premature dementia, therefore, it is possible to make a subdivision of the cases into those which do and those which do not exhibit phenomena which originate in sub-evolutional and dissolutive conditions of the psycho-motor area of the cerebral cortex. These are the "approximately 'katatonic'" and "approximately 'hebephrenic'" sub-classes which the writer has employed.

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His views as to the position occupied by the "paranoid" type of premature dementia are difficult to summarise. The writer limits the term "paranoia" to cases of developmental origin in which the centre of higher association is the primary region at fault, in that it is unable to exercise its normal functions of co-ordination of, and of corrective and selective control over, the centres of lower association. He thus includes "paranoia" under the heading of "amentia." In this course he is in accordance, in fact if not in terminology, with Bianchi and certain other authors.

In the delusional cases which he excludes from the group of true paranoia, and which are discussed in the section on "Mental Confusion," various local disabilities exist in one or more of the centres of lower association, and these lead either to unharmonious action of these centres in relation to one another, or to more generally aberrant psychic processes, involving also the centre of higher association. This condition is evidence of local cerebral dissolution which slowly becomes widespread; and, for the sake of clearness, it may be spoken of as *dissolutive* in contra-distinction to *developmental paranoia.*

The cases contained in the "paranoid" sub-class of premature dementia are of a similar type to the former, and may be termed, solely for the sake of clearness, examples of *premature dissolutive paranoia.* Such cases occur at all ages and might conveniently be classed as examples of "paranoid dementia." The writer, however, prefers, owing to the fact that all grades of delusion exist in cases of dementia, from the unsystematised to the semi-systematised, or even the systematised, not to make use of any such general symptomatological division, although during the description of premature dementia he has found a sub-class of the kind convenient. His excuse for making an exception in the present instance lies in the fact that, of all the classes of primarily neuronic dementia, the amount of dementia is the greatest in the premature variety, in which, therefore, such a symptomatological division is both possible and convenient for descriptive purposes, although, from the general psychiatric aspect, it is undesirable. In other words—to render his position quite clear—whilst in premature dementia the few "paranoid" cases stand out sharply from the (usually more demented) "hebephrenic" and "katatonic" types, in the other varieties of primarily neuronic dementia no such

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"paranoid" group is evident unless *all* cases exhibiting systematised, semi-systematised, or even unsystematised delusions were included in this, to the exclusion of every other symptomatological characteristic. Under such circumstances, as so many further possible sources of delusion exist, owing to the more extensive mental content of the adult individual, a *reductio ad absurdum* would necessarily result.

The writer thus considers that the peculiar symptomatology exhibited by cases of premature dementia is susceptible of a rational explanation, and that this type of dementia is not a special form of mental disease, but merely exhibits unusual features in consequence of the occurrence of neuronic dissolution in a cerebrum which is still immature.

The second group of "progressive and secondary dementia" is divided into classes of "progressive senile dementia" and "dementia paralytica."

With regard to the former class, the evidence that there is a direct relationship between the presence of degeneration of the cerebral vessels and the development of severe dementia is indicated. This subject is discussed in Part I of the present, and in greater detail in a previous paper.

The subject of dementia paralytica is on the other hand considered here at length. The summarised conclusions of the writer are as follows:

He considers that dementia paralytica is a branch of mental disease, and that the subjects of this form of mental disease would, if they had not been syphilised, have suffered from one or other of the types of primarily neuronic dementia. He is further of the opinion that former syphilis is a necessary antecedent to dementia paralytica.

With regard to the first question, he has shown, by a study of the death-rates in mental disease at different ages, and by a comparison of these death-rates with the homologous death-rates in the corresponding general population, that the exclusion of the general paralytic population of an asylum leads to the result that lunatics (particularly those of the male sex) have an extraordinarily low death-rate between the ages of thirty-five and fifty-four. If, on the other hand, the general paralytic population is included in the total lunatic population, this result is not apparent.

He has also pointed out that the morbid anatomy and the

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pathology of dementia paralytica do not differ in their essential features from those of progressive senile dementia. He has further shown, by a classification of the types of dementia paralytica and a comparison of these with the varieties of primarily neuronic dementia, that the two series are homologous.

On these various grounds he has based his contention that dementia paralytica is a branch of mental disease. As confirmatory evidence he has pointed out the high percentage of heredity of insanity and of parental and family degeneracy which can be obtained in cases of dementia paralytica, and he has shown that cerebral under-development occurs in certain types of this form of mental disease.

With regard to the second question, he has indicated his reasons for considering that former syphilis is a necessary antecedent to dementia paralytica. He is of the opinion that the ordinary sane individual and the ordinary psychopath or potential lunatic, if possessed of cortical neurones of average durability, may suffer from syphilis with impunity as regards the later onset of dementia paralytica, and he considers that the same statement may be made with regard to the syphilised lunatics with little or no dementia, who are fairly common in asylums. On the other hand, he holds that a psychopath who possesses cortical neurones of subnormal durability, and who, apart from an attack of syphilis, would develop a moderate grade of dementia, would, after an attack of that disease, sooner or later suffer from one or other of the types of dementia paralytica.

He thinks that the important feature in which dementia paralytica differs from progressive senile dementia consists in the possession, by the subjects of former syphilis, of a permanently enhanced capacity of reparative reaction on the part of the non-neuronic elements of the encephalon. In both cases neuronic dissolution and non-neuronic reparative reaction occur *pari passu.* In the case of dementia paralytica, non-neuronic reparative reaction is more or less intense, and vascular degeneration is relatively slight; in the case of progressive senile dementia non-neuronic reparative reaction is relatively feeble and vascular degeneration is relatively severe. He would illustrate this point by a coarse analogy, comparing dementia paralytica to certain types of progressive renal cirrhosis and progressive senile dementia to senile renal cirrhosis.

On these grounds he includes dementia paralytica and pro-

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gressive senile dementia under the common group of "Progressive and Secondary Dementia."

This part of the paper finally contains groups of "Dementia following Sense-Deprivation," "Dementia following Epilepsy," and "Dementia following Cerebral Lesions."

The subject of "Dementia following Sense-Deprivation" is considered at greater length than the frequency of the condition might appear to demand. This course is adopted for the following reason. In the case of the preceding groups the dissolution or involution of the centre of higher association is either primarily neuronic or is also due to extra-neuronic but intra-encephalic morbid states. In the case of dementia following sense-deprivation, however, dissolution of the centre of higher association occurs in cerebra which are permanently maimed, in the neuronic sense, in their functionally lowest and most stable portions, namely, one or more of the centres of projection; and the exciting cause of the dissolution of the centre of higher association in such cerebra is the stress induced by the necessarily abnormal modes of lower cerebral association which result from this maiming. The consideration of the subject is therefore necessarily preceded by a discussion of the processes of lower cerebral association and of the relationship of language to these.

As has already been indicated, the writer recognises three grades in the hierarchy of cerebral function, namely: (1) centres of projection for the reception of sensations; (2) centres of lower association for the recording of sensori-memorial images and the association of these into complex psychic units which differ, not fundamentally but in detail, on every occasion on which they are evolved or employed; and (3) a centre of higher association which is concerned with the general control and co-ordination of psychic processes and the grouping of the complex psychic units evolved by processes of lower association into harmonious series of concepts by means of voluntary attention and selection. He thus regards perception and conception as *processes*, and does not predicate the existence of *centres* for percepts and concepts, terms which in his view are psychological generalisations for psychic products that require integration from sensori-memorial images on each occasion on which they are evolved. This integration occurs by the aid of the cerebral mechanism of language.

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Words may be described, without serious error, as mental algebraic symbols which, without interpretation into their conceptive, their perceptive, and finally their sensori-memorial equivalents, are meaningless. Language, in other words, may be compared to the symbolic system employed by mathematicians, and the ever-varying sensori-memorial complexes which words symbolise may be likened to the numerals of arithmetic.

A word, *per se*, represents merely an auditory or visual sensation, or a cheirographic or articulatory kinæsthetic impression, unless it is employed as a symbol on which to integrate the percept or concept which it signifies, and for such integration the cerebral mechanisms or associational systems connecting the different projection and sensori-memorial regions of the cortex are needed.

Further, both these developed percepts and concepts, and also the associational processes involved in their formation, differ not fundamentally but in detail on every occasion on which they are evolved or performed.

Words may arise into consciousness through any one of the four language-spheres. When, however, they are voluntarily and silently reproduced, *i.e.*, thought of, words are invariably awakened through the articulatory word-centre under normal conditions. They cannot be voluntarily repeated in thought by means of the cheirographic centre if the hand is not actually moved, though such hand-movements may be replaced by slight movements of the head, or even of the lower jaw or the eyes, through the agency of their respective motor spheres. If words should spontaneously arise in the visual or the auditory word-centre, the condition is so abnormal as to constitute a hallucination, which the subject may or may not be able to distinguish from a true visual or auditory sensation.

However they may arise into consciousness, words naturally possess very different symbolic values. Illustrations need not be given here, as the subject is dealt with in the section under present reference. Since this section was written a recent paper by E. H. Rowland has come under the notice of the writer. In it the author discusses "The Psychological Experiences connected with the Different Parts of Speech." The conclusions of the author with regard to the symbolic values of the different parts of speech, and those expressed by the writer in the section referred to, are in accord.

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The auditory, visual, cheirographic, and articulatory word-centres thus merely signify the cortical regions in which lie the physical bases of mental algebraic symbols. These, unless they serve as inciting agents from which spread, in different directions throughout the cerebrum, complex impulses of association, signify no more than unmeaning sounds, shapes, and musculo-kinæsthetic sensations.

Language is produced by the suitable co-ordination of the verbal content of the auditory and articulatory word-centres. It is originally acquired by imitation under the influence of auditory sensations, and in educated persons language is more highly evolved owing to education of the visual and cheirographic spheres. When once it has been acquired, however, language (*i.e.*, functional activity of the several word-centres with their commissural systems) is not necessarily employed as the instrument of thought, although it has been primarily evolved for this purpose. Examples are common in which the mechanism of language is employed in a purely mechanical manner; and in the text of the paper several illustrative examples are given.

This summary would become of inordinate length were the above remarks critically compared with the views of the numerous authors who have written on the subject. Those, however, of Bianchi, who has recently elaborately discussed the functions of the cerebrum from the psychological standpoint, require a passing mention. This author, whilst fully recognising the necessity of language for the *reproduction* of thought, considers that, apart from words, there exist in the cerebrum a centre for concepts in the frontal lobes and centres for percepts in the post- and infra-Rolandic regions of the cerebral mantle. He recognises two grades only of cerebral function, (1) a region of government in the frontal lobes, and (2) a mantellar parliament existing in the various perceptive zones; and he regards language simply as a mechanism for the reproduction of thought. He considers that even abstract conceptions exist apart from words. "The coalescence of the word with the abstract conception, and the impossibility of separating them, do not warrant us in denying that they are formed in different areas" (p. 131). This quotation is inserted out of fairness to the author, though the writer has not misinterpreted his opinions, as he devotes several pages to the endeavour to prove that per-

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cepts and concepts can exist *in the absence of words.* What Bianchi, however, really clearly indicates is that words and language can exist in the absence of percepts and concepts, which is a very different matter.

In connection with this question, the recently published views of Pierre Marie are of importance. This author considers that in all types of aphasia (with the exception of anarthria, which he considers not to be aphasia at all) diminution of intelligence is present. "C'est qu'il y a chez les aphasiques quelque chose de bien plus important et de bien plus grave que la perte du sens des mots ; il y a une *diminution très marquée dans la capacité intellectuelle en général*" (p. 241). The elaborately detailed observations of Marie do not give support to the views of Bianchi, but are readily explicable if, as is the opinion of the writer, language be regarded as a necessary symbolic instrument for the carrying on of psychic processes, and not merely as an instrument for the expression of separately elaborated psychic products which already exist in certain cerebral centres.

During the description of "Dementia following Sense-Deprivation," the writer separates congenital from acquired cases, and indicates how deafness is a more serious deprivation than blindness. The examples of deaf-mutism which are cited, all of whom are high-grade aments, exhibit not only dementia, but originally defective intellectual powers and an imperfect visual and cheirographic substitution of the auditory and articulatory language spheres. Further, these cases differ from those suffering from acquired sense-deprivation in presenting no signs of irritability, excitability, and stubbornness.

In the section on "Dementia following Epilepsy" is repeated the observation that epilepsy occurs most frequently in association with mental disease in those types of the latter in which cerebral degeneration is most marked. For example, 37·2 *per cent.* of low-grade aments (idiots and imbeciles), 12·7 *per cent.* of high-grade aments, and only 4·5 *per cent.* of cases of dementia suffer from epilepsy. It is remarked that the general effect of co-existing epilepsy is harmful in all types of mental disease and accentuates the special symptomatology. With regard to "Dementia following Epilepsy," the writer indicates the marked grade of dementia which ensues, and also the impossibility, in the absence of a history or evidence of

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epilepsy, of distinguishing between cases of primarily neuronic dementia and of epileptic dementia.

The third part of the paper concludes with a reference to "Dementia following Cerebral Lesions," which calls for no remark, as, apart from dementia, the symptomatology presented by such cases is individual and accidental.

In concluding this general review and summary the writer would remark that, apart from the clinico-pathological evidence which he has adduced in favour of the thesis he advocates, recent research in psychiatry tends more and more to decrease the number of "mental diseases," and to make for the unity of insanity as on the one hand the symptomatological expression of cerebral sub-evolution, and on the other that of cerebral dissolution and involution. The generalisation of "dementia præcox" groups together many types of the insanity of adolescence. The discovery of the two juvenile, the tabetic, the chronic degenerate, and the senile forms of dementia paralytica has widened the original conception of general paralysis as a peculiar acute mental disease of adult life. The generalisation of "maniacal-depressive insanity," recently still further extended (Dreyfus) by the inclusion of presenile melancholia, has classed together many types of cerebral degeneracy. Finally, even the generalisation of "polyneuritic psychosis" has recently been extended by Knapp, who recognises numerous aberrent types of symptomatology.

These few illustrations of the direction in which recent research in psychiatry is advancing, serve collectively and individually as evidence in favour of the broad generalisation of amentia and dementia advocated by the writer in this paper. Whilst he does not presume to imagine that he has done more than add a further example to the numerous classifications of mental disease which have been published, he is nevertheless convinced of the general correctness of the clinico-pathological basis on which his generalisation of amentia and dementia is founded, and of the approximate accuracy of the classification of mental disease which he advocates.

Though his attempt to indicate the physical basis of mental disease may for the present be doomed to failure, he is satisfied that future histo-pathological research will confirm the general correctness of his observations, and by extending our knowledge of the functions of the cerebrum will eventually demon-

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strate not only the general physical basis of mental disease which he claims to have proved, but also a special physical basis for many of the clinical types of symptomatology which are commonly regarded as individual mental diseases.

The writer desires, in conclusion, to express his grateful thanks to Doctors Jones and Mott, Taylor, and Wiglesworth, for the use of the clinico-pathological material which he has had the privilege of collecting at the Claybury, Hellingly, and Rainhill Asylums respectively. He also wishes to express his indebtedness to Dr. G. A. Watson for the loan of histological specimens, and to Mr. F. J. Abram, who has kindly drawn certain of the diagrams and has rendered valuable assistance in the preparation of the photographs with which the paper is illustrated.

(1) The writer does not wish this "General Review and Summary" to be regarded either as an abstract of the paper or as a summary of conclusions.

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A Philosophy of Psychiatry. By BERNARD HART, M.B., M.R.C.S., Assistant Medical Officer, Long Grove Asylum, Epsom.

"What we gain from speculative philosophy is not so much answers to questions which common sense universally asks, as the knowledge that these questions themselves, since they are based on untrue concepts, must vanish away."—PAUL MÖLLER.

PSYCHIATRY has the unenviable characteristic of containing within its borders more diverse and conflicting opinions than any other branch of science. These disputes relate not only to the conclusions reached by different authors as regards matters of theory or fact, but also to the method of research, and even to the material with which the subject deals. This is so obvious, that if the numerous existing text-books are carefully compared it is hardly possible to realise that they profess to deal with one and the same subject. Metaphysicians and materialists, psychologists and clinicians ride their particular hobby horses, and produce a number of diverse schools whose parallel is only to be found in the history of philosophy.

In modern times the goods and evils of specialism have made themselves much felt, and psychiatry is advancing along numerous very distinct paths. Unfortunately, those who are engaged in a particular line of research are too often afflicted with panaceaism, and regard with open or only partially-veiled contempt the efforts of other workers along other lines. Psychologists and pathologists proceed in happy ignorance of each others' work, or at any rate with wonderfully naïve ideas concerning the inter-connection of their various spheres. While Professor Janet in Paris is publishing psychological masterpieces which give one the impression that a powerful searchlight is being thrown into the dark places of insanity, an anonymous writer in the *Times* condescendingly informs the lay public that he "cannot help regarding psychology as an *ignis fatuus*."

By certain pathologists the view that mental diseases are *really* brain diseases, and that anatomy and physiology are the only routes by which they can be properly attacked, is regarded as a self-evident truth. The brain constitutes a part of reality, something which really exists and is causally effective, whereas psychological research deals with flimsy unrealities. Advance

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except by way of the microscope and test-tube is a fraud and delusion.

The psychologists, on the other hand, take refuge in Plato, Bishop Berkeley, and Tyndall's much-quoted Belfast address. They insist that mind is the immediate and therefore the only real fact, and they tend to ultimately lapse into a view even more one-sided than that of their opponents. These divergent opinions are really the result of a more or less conscious endeavour on the part of men skilled in the conceptions of a particular branch of science to apply those conceptions to a far wider sphere of being. In other words, we have dogmatism in the sense in which it was originally defined by Kant ([1]).

Now, in this country, and to a large extent in Europe also, the preponderating dogmatism is undoubtedly the physiological, and the pathological laboratory is the hub of the asylum universe. The growth of this conception forms an important chapter in the history of psychiatry, and some profit is to be gained by a consideration of the various factors which have contributed to its popularity. Historically the physiological conception arose as a reaction against the theological and metaphysical explanations of the middle ages. Its progress was materially assisted by the rapid growth of the physical sciences and the endeavour to bring all experience into line with them. In an age when psychology was confounded with metaphysics and regarded as a subject essentially opposed to the methods of science, it is easy to understand the strenuous attempts to bring insanity within the pale and make it conformable to the laws of physiology. Psychology was then in its armchair stage —the student was expected to sit down and evolve the subject from the depths of his own mind by a process of introspection. Observation and experiment, the methods of the natural sciences, were not considered to be applicable, and it was obvious that any attempt to understand dementia præcox by a process of introspection would be singularly unsuccessful. An attack upon insanity from the psychological point of view has only become possible with the development in modern times of an objective psychology working along the lines of the other sciences.

If we endeavour to trace to its essential basis the narrow conception that anatomy and physiology are the only routes by which insanity may be properly approached, and that the brain

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is the reality underlying it, we find the naïve idea of reality as something extended, tangible, and visible, and the assumption that science is essentially concerned with measurement, and therefore only applicable to the material world. These two propositions, whether they be expressed or implied, form the kernel of what we may call the doctrine of physiological dogmatism. If, therefore, we would determine the relation of the latter to modern thought, it is necessary to inquire what measure of validity is to be ascribed to the two conceptions in question.

Now the view that science is concerned with an external "real" world of "things-in-themselves" composed of extended objects arranged in an infinite space, was at one epoch very generally accepted. It may be said to have reached its *reductio ad absurdum* in the materialistic writings of Büchner ([2]) and Moleschott ([3]) in the middle of the nineteenth century, and it is now discredited by modern thinkers. It was the prevalence of doctrines of this nature which aroused Mach's gibe, that 'Every philosopher has his private natural science, and every natural scientist has his private philosophy. The majority of natural scientists, however, tend to embrace a materialism some hundred and fifty years old, whose insufficiency has long been obvious, not only to the philosophers proper, but to all those accustomed to think philosophically" ([4]). Scientists, fully occupied in constructing the magnificent edifice of empirical knowledge, had paid but little attention to the foundations upon which they were building. The practical value of their work was so evident that objectors could be silenced by the retort that the proof of the pudding lay in the eating. The primary assumptions of science were left to take care of themselves, until physicists suddenly awoke to the fact that they had been guilty of the grossest metaphysics, and were in danger of becoming even more metaphysical than the philosophers. Obscurantist attacks, which had formerly been vainly directed against the results of science, were now turned against its postulates, and the evidently vulnerable character of the latter made the need for some refurbishing acutely felt. Hence there arose a school of critical philosophy which, though its roots may be traced back to Kant, has attained its main development during the latter part of the nineteenth century. It is unique amongst philosophical creeds in the fact that its chief exponents have

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been men eminent in the scientific world—Clerk Maxwell ([5]), Ostwald ([6]), Mach ([7]), Karl Pearson ([8]). Pearson's *Grammar of Science* remains the finest vindication in the English language of the principles, methods, and aims of modern science. The short exposition which follows is an endeavour to cull the essential points from its pages. But limitations of space prevent more than a short summary of the principal conclusions being given, and for the demonstration of their validity the reader must be referred to the original work.

Science is characterised, not by its content, but by its method of investigation—it embraces the whole field of knowledge, and is as applicable to history as it is to chemistry. It deals, not with a fabulous entity called "matter," but with the content of the human mind, and acknowledges its incapacity to deal with anything which forms no part of that content. The material of science is therefore human experience, what James calls "the flux of sensible reality." In other words phenomena, of whatever sort or kind they may happen to be, constitute the material, while science is simply our method of treating this material. Now it is found that human experience does not take place in an entirely haphazard and chaotic manner, but that the events follow one another with more or less regularity and order. This is the principle of the uniformity of nature. The aim of science is to find a means of proceeding from one point of experience to another with the least exertion of mental energy, in other words to achieve an "economy of thought." Its method is firstly to take some portion of human experience and to classify the facts found therein into sequences; secondly to find some simple statement which will resume an indefinite number of these sequences in a single formula. Such a formula constitutes a scientific law. The law is the more fundamental the wider the range of facts which it resumes. It is not a mythological entity; it is merely a construction of the human mind to enable it to deal better with its experience. If we examine any scientific law in order to determine its essential nature, we find that it has no immediate reference to sense-impressions, or in other words to phenomenal reality, but is purely ideational or conceptual in character. The meaning of this statement will be made clearer by taking an

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example, *e.g.*, Newton's law that "Every particle attracts every other particle." Now a particle is not a sense-impression; it is defined as an infinitely small portion of matter, that is to say, a pure idea, formed by carrying what is given in sense-impressions to a conceptual limit in the mind. "Newton is here dealing with conceptual notions, for he never saw, nor has any physicist since his time ever seen, individual particles, or been able to examine how the motion of two such particles is related to their position" (9). Similarly geometry, with its points, straight lines, and surfaces, is dealing with entities which are frankly acknowledged to be conceptual in character, and to have no real existence in the world of sense-impressions. The physical conceptions of the atom and the ether are precisely analogous in their nature. We find, therefore, that science does not profess to mirror some hypothetical universe lying altogether outside the human mind, but simply to provide a conceptual model, a "conceptual shorthand," by aid of which we can resume our sense-impressions and predict future occurrences. "The physicist forms a conceptual model of the universe by aid of corpuscles. These corpuscles are only symbols for the component parts of perceptual bodies, and are not to be considered as resembling definite perceptual equivalents. . . . We conceive them to move in the manner which enables us most accurately to describe the sequences of our sense-impressions. This manner of motion is summed up in the so-called law of motion." We therefore reach the conclusion that science is simply a mode of conceiving things. The justification of science lies precisely in the fact that it does enable us to resume our sense-impressions and predict future occurrences; its value as truth lies in its value as a working hypothesis by which we may become the masters of phenomena.

Now there may be more than one mode of conceiving the same things, and which mode we adopt may depend on the practical necessities of the moment. Thus the mathematician insists on regarding bodies as bounded by continuous surfaces, whereas the physicist is compelled to regard them as bounded by discontinuous atoms. Neither of these modes is more *true* than the other; the question is merely which one has the greatest practical value in the particular sphere of thought in question. The old absolute conception of truth has no

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meaning for modern science; truth is regarded as relative; it is no longer a static but a dynamic concept ([10]).

Armed with these conceptions let us now direct our attention to those fields which more particularly concern us, and firstly let us consider the problem of the physical and the mental. What, in fact, is the difference between physics and psychology? We are usually told that there are two orders of phenomena, the physical and the mental, two series which are so qualitatively different that the passage from one to the other is unthinkable. Concerning the relation between these two series innumerable philosophical battles have been waged, and science must approach the question with a due regard for the metaphysical quicksands which await her on every side. It was pointed out by Bishop Berkeley that sense-impressions are the only things of which we have any immediate knowledge, and modern science, having with some difficulty duly digested this fact, has discarded the pretence that it is engaged in a research into "things in themselves," and has relegated the latter to the limbo of useless figments. Being entirely pragmatic in its ideals, and having a criterion of validity measured solely by utility, it recognises that its field is the content of the human mind, neither more nor less. The modern scientist cannot therefore be accused of sharing the vulgar conception that "reality" consists of "material substance," which by means of "energy and force" acts on "spiritual substance," giving rise in the latter to "sensations" which mirror the external reality. What then does he mean when he distinguishes between the mental and the material? The answer is that he means two different modes of *conceiving* human experience. On the phenomenal plane the physicist and the psychologist are dealing with precisely the same entities, sense-impressions; the distinction between them lies in their different conceptual methods of resuming these sense-impressions so as to express them in simple formulæ. The physicist resumes his sense-impressions by means of a conceptual model involving space and time, whereas the psychologist regards them as actual or potential constituents of a consciousness. As Mach ([11]) puts it, there is a "change of direction" in their methods of research. The ultimate goal of the physicist is a complete description of the universe in terms of motion or mechanism, the ultimate goal of the psychologist is "personality." Neither method is

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in itself better, more perfect, or more *real* than the other; a comparison between them can only be made on the grounds of utility. We are only entitled to ask by which method we are better enabled to resume our experience of the past and to predict our experience of the future. And the only answer to this question which it is possible to give in the present state of knowledge is that both methods are of value, and that neither can be abandoned in favour of the other. Whether mechanism or consciousness will be ultimately found to provide a better description of phenomena is a problem which the future alone can decide. It may at least be conjectured, however, that the perfect conceptual description of the universe will be of a type essentially different from both, an all-embracing concept from which mechanism and personality may be deduced as particular examples.

For the present the physiologist and the psychologist must be allowed to proceed along their respective roads. But there must be no jumping from one mode of conception to the other. The physiologist must not introduce a psychological conception into his chain of cause and effect, nor must the psychologist fill up the gaps in his reasoning with cells and nerve-currents. The former error is comparatively rarely met with, the latter is unfortunately only too common. No physiologist would consent to admit "ideas" as active elements in the sequence of changes which take place in the nervous system. He simply points out that he has no use for such a conception, and that, so far from helping him in his explanation of phenomena, it vitiates his reasoning, and destroys the validity of all his former concepts. The psychologist, on the other hand, is a weaker vessel; he less commonly belongs to what James has termed the "tough-minded" school of philosophy. He is usually prepared to humbly admit that the phenomena of memory are adequately explained by the potential physical energy of a brain cell, and does not venture to suggest that the potential psychical energy of an idea is a conception just as valid, and with precisely the same claim or lack of claim to real existence.

Now, if psychology and physiology are two different modes of conceptually describing the *continuum* of human experience, we see at once that there is room for another body of knowledge, a description of the correlation existing between the two

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conceptual series. Such a science actually came into being with G. T. Fechner ([12]), and under the name of psycho-physics has attained a considerable development during the past fifty years. From its very nature it is obviously dependent upon the perfection of the psychological and physiological conceptual systems which form its material—and for the insufficiencies of psycho-physics the insufficiency of psychology is largely to blame. The amount of importance to be assigned to psycho-physics is a question of peculiar interest to the alienist, for the validity of the "clinical method" is to a large extent dependent upon its solution. This point will be subsequently discussed.

We must now consider what meaning we are to ascribe to the term "insanity." Amongst the laity there is an almost universal belief that insanity is a definite morbid entity analogous to typhoid fever. We smile at the fond wife who pathetically insists that her husband is not insane, but is only suffering from "nervousness." Nevertheless the profession is by no means exempt from reproach in this respect, and grave consultations are held to determine whether a patient is suffering from hysteria or insanity. Now if we carefully examine what is meant by insanity we find that its connotation is so shadowy and indefinite as to be almost meaningless, and that it denotes a group of individuals who have hardly anything in common. Perhaps the best possible definition of insanity is expressed in the motto of a certain asylum magazine: "We do not all think alike." An individual is said to be insane if his mode of thought differs in quantity or quality from the normal. Normal, however, is here a very elastic conception, and means little more than the vague limits between which the majority of men do think. The little more which it does mean is practically deducible from this definition. On the principle of natural selection the mode of thinking adopted by the majority of men will be one more or less in relation with reality, that is to say, a mode which will enable the thinker to appropriately dip into the *continuum* of sensory experience, in other words a mode which will enable him to adapt himself to his environment. The mental processes of the insane, which differ from those of their fellow men, are therefore usually less efficient in their relation to reality. A genius, of course, thinks differently from the vulgar herd, but differs essentially from the insane in the relation of his thoughts to reality. Nevertheless, the

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distinction frequently does not save him from being regarded as insane by the less plastic among his contemporaries.

We have seen that the concept "normal thinking" is remarkably elastic. As a matter of fact, it is to a great extent a function of the environment. Thinking which is normal and adequate in one environment is abnormal and inadequate in another, and there are numerous individuals who betray no mental abnormality so long as they are not subjected to any unusual stress. A man may therefore be considered sane in one environment, insane in another, according to the less or greater amount of adaptation required from him.

Insanity is, in fact, a legal and sociological term; it denotes individuals belonging to the anti-social group. It is impossible to find any reasonable line of demarcation between insane, criminal, and immoral. Formerly the insane were treated as criminals; we are now slowly but surely approximating to the point of view which regards criminals as insane.

If the meaning of insanity is so vague and ill-defined we must be content to assign an equally vague and ill-defined province to psychiatry. The territory with which it professes to deal is so vast that the futility of drawing conclusions with regard to insanity as a single entity is obvious. The psychiatry of the future will form an essential basis for history, sociology, and politics—but that it is destined to be subdivided and specialised to an enormous extent is beyond question. Now, with this fascinating vista opening before us, what are the available methods by which we may hope to further our knowledge? First and foremost we must guard against the wiles of the panacea-monger, against every attempt to enclose our science within the narrow limits of dogmatism. And here we run at once against the most cherished dogma of the alienist, the opening statement of almost every text-book: "Insanity is a disease of the brain." It cannot, of course, be denied that this formula has been of enormous utility in the past. As a weapon of reform against the theological and metaphysical conceptions of the middle ages it led to the most notable advances which psychiatry has yet made. It still remains the basis of some of the best scientific work of the present day. But to regard this conception as a unique and ultimate end, to argue from it that the field of psychiatry must be reduced to a single path, is totally unjustifiable. The statement that

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insanity is a disease of the brain is a physiological conception; whether it is adequate to describe the phenomena observed is a question for physiologists to decide, and whether it can be ultimately brought under the wider conception of mechanism and treated as a particular example of the laws of motion is a question which physiologists and physicists must decide between them. But we have seen above that physiology is only one method of conceptually describing the sequences of human experience; the claims of the psychological method must also be allowed, and it is mainly to emphasise the importance of this other aspect of things that the present paper has been written. Nevertheless, it is necessary to avoid exaggeration, and we need only show that physiology is a limited method of describing actual phenomena, that it must not be regarded as the only talisman with which we may approach the study of insanity, and that its claim to a unique appropriation of the *real* is based on crude and naïve conceptions totally foreign to the spirit of modern science. As Janet remarks: "S'il faut toujours penser anatomiquement, il faut se résigner à ne pas penser du tout quand il s'agit de psychiatrie." To deny, however, that physiology is a genuine and potent method of research would be merely foolish. The only test of scientific truth is utility, and judged by this standard the accomplishments of physiology are amazing. It has so many champions that there is no need here to discuss its use as a method in psychiatry. But it is necessary to emphasise the point that the physiology of insanity must proceed by means of physiological conceptions, and must not juggle with the psychological. No useful purpose is served by constructing a diagrammatic representation of a psychological conception, and then proceeding to translate its points into brain-cells and its lines into nerve-fibres. Yet this mode of dealing with the problems of insanity is extraordinarily common, and, curiously enough, its perpetrators regard it as a genuine scientific advance. It would be as reasonable to suppose that a French riddle is solved by translating it into English. In order to achieve any solid contribution to knowledge, pathologists must practically neglect mental symptoms altogether. What can be done in this way is illustrated by Dr. Bruce's *Studies in Clinical Psychiatry*. Physiological sequences are studied by means of physiological conceptions, and lead to physiological therapeutics—aimless

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psychology is rigidly excluded, and the result is a book which gives an impression of solidarity and coherence totally different from that produced by the ordinary hotch-potch.

A similar rule must be observed when dealing with the psychological conception of insanity. To remark in the middle of a psychological discussion that a certain phenomenon is due to a toxin acting on the cerebral cortex is no explanation at all. It is merely a lapse into a language which, for the purpose in hand, is entirely meaningless. Yet an irrelevant use of physiology is characteristic of a large number of psychological writers. The conception of the "subconscious" has been a most potent weapon in enabling us to comprehend abnormal mental phenomena, and is now established on the most solid grounds. But there is a school of thought which, while admitting that the concept must be used in a purely psychological manner, insist on regarding it as a brain fact and not as a mind fact. This is an example of confusion between the two conceptual methods.

Certain statements in the last paragraph require some qualification. It will be at once objected that the clinical method, which the alienist rightly regards as his most efficient weapon, is compelled to introduce both physical and psychological conceptions into the same train of thought. Thus we observe that an excessive dose of alcohol is followed by the mental symptoms of intoxication, and that a patient with typhoid fever is liable to develop that affection of consciousness which we term "delirium." If we accept the general principles enunciated above, are we justified in thus mixing the physical and the mental? The answer to be given to this question depends entirely upon our point of view at the moment. We are fully justified in saying that certain toxins cause mental confusion if we clearly realise that we are merely recording the succession of certain events in time, and not insinuating the existence of a causal relation. In order to make this statement clearer we must consider for a moment the philosophical meaning to be ascribed to the word "causation."

Let us first note that clinical observations of the kind mentioned are possible, because all human experience takes place in time, and the temporal character also adheres to both the physical and mental concepts by which we resume this experience. Hence it is possible to resume one portion of experience

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by a physical concept, another portion by a mental concept, and to record the fact that the one precedes the other in time. This is precisely what we do when we say that a toxin causes mental confusion.

Now, Höffding ([13]) states that "The causal concept appears under two aspects: under a provisional, elementary form, with which we are often compelled to be content; and under an ideal aspect which all research and all theories strive after. *The elementary causal concept* presents only an unconditional succession: if the phenomenon A appears, then B inevitably follows, and B only appears when A has preceded it. It is not asserted that the causal relation holds between A and B themselves. It is possible that they are both the successively emerging consequences of a previous cause. *The ideal causal concept* goes a step further and sees in the phenomenon, which we call the consequence, the *continuation* of that phenomenon which we call the cause, or its equivalent in a new form."

It is in this latter sense that causation is taken in all exact scientific work. Now if we say that a toxin causes mental confusion we are using the concept of causality in its first or empirical, and not in its second or ideal form. It is impossible to conceive of a mental state as the *continuation* of the collection of atoms termed a toxin. If, therefore, we are proposing to do exact scientific work, we must endeavour to work out the mental state as the resultant of the preceding mental state, the bodily conditions as the result of the preceding bodily conditions. We are accustomed, for instance, in every-day life to say that the idea of a meal makes the mouth water. But for the physiologist this statement has no meaning. He is ready to show how a certain impression on the retina by means of neural connections causes an increased secretion of saliva. But if you insist on introducing an "idea" into his causal series you destroy the fundamental postulates on which his science is built. Similarly, psychology cannot form itself into a science by endeavouring to weld into a causal series the totally disparate conceptions of toxins and mental states. Causal relation, in its scientific sense, can only be asserted of the different parts of one and the same conceptual series, whether it be physical or mental. But these considerations do not alter the fact that clinical observations of the type described above have a certain value of their own, and in the present imperfect state

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of our knowledge a very great value. For one thing they form data for that science of psycho-physics which we have previously mentioned, for another they are of the nature of first approximations, and constitute a basis for subsequent and more exact work. But this more exact work must take the form of a causal series composed of mental states, and a second causal series composed of physical states.

The first essential in the study of insanity is, then, that the pathologist and the psychologist must proceed along distinct lines, each employing a coherent system of concepts, and each refraining from interpolating any concept belonging to the other. But there are certain methods which, as they depend upon the very nature of thought, may be properly made use of by both. Here belong the much-mooted questions of *classifications* and *disease entities*. Now the first point to be made is that, as the aim of science is to resume our past experience in order that we may predict future experience, classifications and disease entities cannot be the end of psychiatry, but only one of its means. Any classification, therefore, which enables us to handle our material in a convenient manner, and which enables us to predict the future to any extent, has to that extent validity and utility. It will be the more valid and the more useful the more it fulfils these conditions. On the principles expounded above it is obvious that diseases are simply convenient labels for grouping together more or less similar sequences of phenomena, and it is hardly necessary to point out to medical men that their borders are indefinite and to a certain extent arbitrary. Yet in the numerous discussions which have raged on the subject of terminology in psychiatry, many writers have evidently regarded diseases as ready-made articles which only require to be found, so that any particular classification must necessarily be right or wrong. Strictly speaking, in classifications of this kind the words right and wrong have no meaning. The whole question is one of practical utility. The Linnæan classification of plants was not *wrong*; it was simply less useful as a weapon of research than that now adopted. Similarly, the question at issue as regards Kraepelin's theories is not whether the diseases he describes *really* exist or not, but whether his classification enables one to proceed more efficiently in the departments of prognosis and therapeutics. If this is so, then his classification is valid and an advance on that

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which it replaces. Kraepelin will then occupy a position in the history of psychiatry analogous to that of Kepler in astronomy. Great generalisations, such as Newton made, are more likely to proceed from the strictly psychological researches of Janet, or those of Jung and the Zürich school.

The function of a classification, then, is to serve as a weapon of research. It must be clearly recognised that classification exists for psychiatry, and that psychiatry does not exist for the purpose of forming classifications. In the melancholy and despairing chapter on classification which prefaces most modern text-books it is usually stated that the ideal, ultimate, and perfect classification is the anatomo-pathological. If the conception of the principles of science explained above is correct, it is obvious that some exception must be taken to this statement. The anatomo-pathological is, of course, *an* ideal classification—it is the perfectly legitimate ideal of the physiological method. But there is no more reason for ascribing perfection to the physiological ideal than to the psychological. The relative merits of each must be ultimately determined according to their practical utility, and it is very certain that, in the present state of knowledge, the data for such a determination are absolutely lacking.

If we apply our criterion of value, that is to say, the possibility of practical deductions, to the various classifications which have held their sway in psychiatry, it is true that we find imperfections everywhere. But it is no less true that we find evidence of a steady advance. If we open a text-book of fifty years ago under the heading "Mania," we are totally unable to construct a coherent mental picture of the cases described under it. If, on the other hand, we are told that a patient is suffering from katatonia we are enabled to form a pretty accurate idea of what we may expect to see. If katatonia be taken here in its wider sense as a symptom-complex and not as the narrower conception employed by Kraepelin, then the advance here indicated is to be regarded as an advance in the symptomatological classification. We have been provided with more definite labels. This type of improvement is the ideal of the symptomatological method, and certain authors maintain that it is the only type which can be entertained in the present state of knowledge. That it has a certain utility as an economiser of thought is obvious,

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but its imperfections are denied by no one. Probably its greatest defect is that it tends to direct attention away from the ultimate aim of all science, the resuming of past and the predicting of future experience. It was as an endeavour to obviate this objection that Kraepelin conceived his disease entities and the longitudinal method of treatment. The essential advantage of this move was the importance assigned to prognosis and therapeutics. The essential disadvantage has been the more or less unconscious tendency to make the patient fit the disease. Much valuable mental energy has been wasted in arid discussions as to the precise disease entity to which a certain case was to be assigned. The most modern method of research combines the advantages of the symptomatological and disease-entity classifications, while it is to a great extent free from their imperfections. This is the method which Farrar ([14]) refers to as the "biological," and is in fact simply a recognition of the truth that psychiatry must proceed along the lines that have led to success in all other branches of science. It might also be called the evolutionary method, for it is an endeavour to trace the development of a mental state from that which preceded it, each constituent thread being conceived as related in a definite manner to its antecedents. By this means it is hoped that laws completely describing these relations will ultimately be formulated, and that the reproach of scrappiness and incoherence so frequently levelled at psychiatry will be removed. Thus a delusion will no longer be regarded as suddenly coming into existence without rhyme or reason, but its origin from the preceding mental state will be definitely traced out.

There is no reason to call the attention of the physiologist to the method just described; he is perfectly acquainted with it, and employs it continually in all his researches. Dr. Bruce's recent work, to which we have already referred in a similar connection, is an excellent example of the systematic observation of pathological sequences, and the endeavour to describe them by simple pathological laws. But the application of this method to the psychological conception of insanity is comparatively rarely attempted, more especially in this country. A good deal has been done on the continent and in America by Janet, Freud, Jung, Morton Prince, and others. Janet's great work on "Psychasthenia" ([15]) is a splendid example of what may

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be accomplished by the psychological method, and its perusal may be confidently recommended to the anonymous gentleman in the *Times* who "cannot help regarding psychology as an *ignis fatuus*." If any progress is to be made, this is the type of work which must be substituted for that method of case-description so much in vogue, in which delusions, hallucinations, and bad tempers are aimlessly catalogued without reference to each other or to the patient.

The ultimate aim of science is the predicting and influencing of future experience. Translating this into the language of medicine we reach the all-important question of therapeutics. Here, again, the dogmatists and panacea-mongers are much in evidence. There is a school of thought which will have nothing to do with any therapeutics that is not physiological and which contemptuously dismisses the question of psycho-therapy as clap-trap and nonsense. This view is not only dogmatic, it is irrational, and it contradicts common-sense. The statement that magnesium sulphate is an efficient form of treatment, while the effect of a kind word is an unscientific delusion, is one which any nursery governess would have sufficient common-sense to laugh to scorn. Yet this statement, expressed in less bald language, is so widely held to be a self-evident truth that its origin and basis merit some investigation. It arises from those naïve conceptions which we have already criticised—the idea of the physical as something objective and *real*, of the mental as merely a flimsy, subjective, shadowy mirror image of the same reality. Hence, by the law of the conservation of energy, which is regarded by these thinkers in the light of a categorical imperative, if we would alter the reality we must do so by the employment of "real" *alias* physical causes. If insanity is an alteration of the brain then it can only be affected by physical agents, which alone have the power of acting upon the brain substance.

Now, as this doctrine contradicts common-sense, there is considerable *à priori* justification for regarding it with suspicion; and, as a matter of fact, we have already seen that it is based upon entirely erroneous premises.

The reality with which science deals is not a hypothetical world of "things-in-themselves," but the phenomenal reality of human experience. This reality is no more physical than it is mental, it simply *is*. The distinction between the physical

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and the mental comes into being on the next plane; it is a difference in the method of conceptually regarding this phenomenal reality. When this distinction becomes more evolved and systematised, it becomes the distinction between physics and psychology. The physical and the psychological are two methods of conceptually describing one and the same content, the content of the human mind. Now both these methods make use of the concept of causality, and it is perfectly obvious that where we can speak of cause and effect we can also speak of therapeutics. For therapeutics is simply an endeavour to interpolate an element into a chain of causes with the object of producing a given effect. Physiological therapeutics is, then, to be regarded as the ultimate aim of the physiological method of conceiving insanity, psycho-therapeutics as the ultimate aim of the psychological method. We saw above that there was no reason for ascribing peculiar perfection to the physiological rather than to the psychological, so we must conclude that physiological therapeutics have no *à priori* claim over psycho-therapeutics. Their relative merits must be determined by their practical utility. As a science physiology has progressed very much further than psychology, with the result that physiological methods of treatment are at present more systematised and rationalised than psychological. Psycho-therapy is still in a nebulous stage, yet under the names of tact, intuition, sympathy, etc., it forms a considerable part of the stock-in-trade of every successful physician. Suggestion, which constitutes one of its methods, is now generally acknowledged to play an important *rôle* in the action of drugs. This is the factor which explains the popularity and occasional efficacy of quacks and patent medicines, and buried in irrelevant details it forms the modicum of truth contained in the doctrines of Christian Science. In the hands of men like Janet, Freud, and Jung, psycho-therapy has been rationalised to a certain extent and systematically employed with the most striking results. The classification of cases adopted in the best English asylums, the endeavour to segregate the curable from the incurable, and to provide the patients with a cheerful and stimulating environment, is another example of this same method. As a science it is still in its infancy, but that a vast field of potent therapeutics is now opening before

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us in this direction cannot be doubted by any impartial observer.

(1) Höffding, *History of Philosophy*, vol. i, p. 375.—(2) Büchner, *Kraft und Stoff*.—(3) Moleschott, *Der Kreislauf des Lebens*.—(4) Ernst Mach, *Erkenntniss und Irrtum*, Leipzig, 1905, p. 4.—(5) Maxwell, *Scientific Papers*, Cambridge, 1890.—(6) Oswald, *Naturphilosophie*, Leipzig, 1902; *Die Uberwinding des wissenschaftlichen Materialismus*, 1905.—(7) Mach, *Die Mechanik in ihrer Entwicklung*, Leipzig, 1883; *Die Analyse der Empfindung*, Jena, 1902.—(8) Karl Pearson, *Grammar of Science*, 1892.—(9) *Ibid.*, 2nd edition, 1900, p. 281.—(10) The doctrines described in the text have in recent years become the basis of "Pragmatism," a system which has already obtained a firm hold upon the philosophical world. For an exposition of its principles the reader may be referred to Dewey, *Studies in Logical Theory*, Schiller, *Studies in Humanism*, Milhaud, *Le Rationnel*, 1898, William James, *Pragmatism*, 1907. Pragmatism, however, is really an ontological theory, and goes very much farther than the scientific idealism of Pearson, which is really a working hypothesis. The validity of the latter, therefore, is by no means dependent upon that of the former.—(11) Mach, "De la Physique et de la Psychologie," *L'Année Psychologique*, 1906.—(12) Fechner, *Elemente der Psycho-physik*, Leipzig, 1860.—(13) Höffding, *The Problems of Philosophy*, New York, 1905.—(14) C. B. Farrar, "Types of the Devolutional Psychoses," *Brit. Med. Journ.*, September 29th, 1906.—(15) Janet, *Les Obsessions et la Psychasthenie*, Paris, 1903.

The Mental Recreations of the Mental Nurse.(1) By ROBERT JONES, M.D., F.R.C.P.Lond.

OUR distinguished President, Sir William Collins, in his admirable oration delivered to us last year, expressed appreciative sympathy with the main objects of the Asylum Workers' Association. These are, firstly, to raise in the public esteem the calling we have chosen, and secondly, to succour those members of our body who have suffered in the service.

Our President's very eloquent and appealing address, clothed with the literary grace and expressed with the philosophic charm so peculiarly his own, was in matter and manner such that we all fervently hoped for an anniversary of the pleasure experienced last May. The claims made in his speech from the ethical side, *viz.*, upon character and conduct, rather than from the purely intellectual aspect of the nurse's duties, are applicable to all those who minister to the mentally afflicted, and our President's invocation that we, as asylum workers, should not let go our sympathy nor neglect the qualities of the heart out of homage to those of the head, will long be cherished as among his wisest aphorisms.

We regret that Sir William Collins—who was recently

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described by a cabinet minister in the House of Commons as one of the ablest members of the Legislature—is not again to address us this year, but we are proud that our leader and the figure-head of our Association is one whose success in so many departments of human activity has been phenomenal, and that whether by the sick-bed, or in the professorial chair, or administering the affairs of the greatest city in the world, or acting as Vice- to the noble Chancellor, of our Imperial University, or furthermore, in directing inquiries into the great affairs of State, our President is one who always kindles interest and rouses enthusiasm, and we rejoice that with his multitudinous engagements he still consents to direct our counsels and to extend his sympathetic and practical interest in our very special work. I, as one of his Vice-Presidents called upon to address you, feel the disappointment as much as any of you do, and I crave the kind indulgence and sympathy of my audience as a most inadequate representative of our distinguished President. My only claim—and it is a proud one—is that I am one of yourselves, an asylum worker, and one who for nearly thirty years has taken a continuous interest as well as a sincere pleasure in the work we have selected to do with the best of our ability.

The two-fold object of our confraternity or guild, *viz.*, our advancement and our benefaction, are fully set forth in the Annual Report which has just been read to us, but the roll of membership, 3,000 out of a possible 18,000 asylum workers, can hardly be considered satisfactory, and it is earnestly hoped that before the close of another year a substantial increase will be made in our roll, so that the leaven of our active membership may give such an impetus to the objects of our Association that not only may solidarity and coherence be imparted to it, but that also greater influence, sympathy and vigour may be extended to our work, which, on account of its exceptional claims to humanitarian considerations, should inspire interest beyond all others.

Our medium of inter-communication—and every organisation has its literature of propagandism—the *Asylum News*, has been for many years under the Editorship of our wise and tactful friend, Dr. Shuttleworth, who has done much to cement friendship, to uphold the asylum nurse, to advance his and her status, and to sustain his and her position before the public

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gaze ; and it is hoped, now that other arrangements are being made for its continuance, the secret of his successful piloting may be imparted to his successor, Dr. Nicoll, whom we sincerely congratulate upon his honourable selection and distinction. The pages of the *Asylum News* demonstrate only too clearly the need there is for help to those of our numbers who have fallen by the way, and as a plea for these benefactions it may be urged there is no one, unless he has lived in actual touch with the insane, who can in the smallest degree appreciate the relief of change and rest from the peculiarly trying conditions, the arduous stress and the overwhelming strangeness of the work of nursing the insane. Such a rest as our funds permit, insures for our workers a complete change of thought, not only from the objective but from the subjective world in which we live—a world full of phantom voices, visionary sights and unexpected realisations, which cannot be ignored and which not infrequently become dire catastrophes. The constant watchfulness necessary to secure safety, to preserve and encourage order and method in such a world, the need always to exercise tact, sympathy, and forbearance, under the most adverse and trying conditions : the necessity for bringing gentleness, serenity, and kindness into the lives of these " waifs and strays of intellect" must and does tell upon any ordinary individual, and the Home of Rest or a pension at the close of a long pilgrimage cannot but be a well-merited recognition for trying duties well performed.

There is absolutely no parallel to asylum work in any vocation, and I am certain that the services of the staff in many of our asylums who assist so faithfully to keep down the sum total of human suffering are not justly, adequately, nor fully recognised.

Our report indicates a greater demand than at any previous time upon the Home of Rest Fund, and although there has been an inordinate call upon it during the year, yet there is still—through the careful oversight of our Treasurer, Mrs. Chapman—a small balance left to the good. It is probably not too much to say that the special work of benefaction organised by this fund is a most deserving charity, and needs to be brought prominently—as we know only our President can do—before a sympathetic public, which only requires to be convinced of merit in order to assist its due reward.

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It is true that in some instances public authorities refuse pensions to their well-worn employees; still, the London County Council, happily, has always shown a readiness to consider services faithfully rendered in their asylums, services rendered in isolation from family life, and which are not unattended with serious risks and danger to life and limb, which are constant on week-days and Sundays, night and day alike, and which must never be allowed to pall, or the object of our service is unattained. In the asylums of the London County Council the leave of the staff has been extended to a full day and a half per week for the male attendants, and to three weeks annual leave for nurses, and every evening from eight to ten o'clock is free to nurses of both sexes to go out of the asylum. Furthermore an increase in wages and emoluments has recently been made, all of which tend to show that the greatest municipal authority in the world pays a due regard to the nature of these duties, to the need for rest, and also for home life and the comfort of those engaged in their services—a consideration which, in the presence of members of this authority, I beg to state, is keenly recognised and appreciated.

Within the last few years nursing the sick in mind and body has become much more exacting, and greater stress has been laid upon the requirements of the asylum staff, confronted, as it is, with the risks, difficulties, troubles, and anxieties inseparably associated with the care of the insane. The Medico-Psychological Association of Great Britain and Ireland, which grants a certificate for proficiency in mental nursing, has recently extended the minimum period during which the necessary training and experience can be obtained to three years, but probably few nurses will be enabled to complete their full course of studies within this period, so that a high state of efficiency is expected from them, and the acquisition of the certificate may be taken to imply qualifications and attainments of no mean order.

Text-books are published upon mental nursing, and the duties of the mental nurse are therein precisely defined and fully described, and I myself am guilty of publishing a treatise, may I venture to hope, for the further delectation of the asylum nurse? All these facts suggest that those who have selected the vocation of nursing the insane are under an obligation to extend the usefulness of their talents by applying their minds

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diligently to reading, studying, and observing; to attendance at lectures and demonstrations, and by presenting themselves for examination. As the elevation of the mind is the principal end of all studies, so it should be our pleasure and purpose to work with zeal and enthusiasm, for work done with thoroughness leads to success, and in no department of medicine is a good nurse of such incalculable value as in a case of insanity, where the essence of treatment is that alluring, baffling, and even mysterious influence of one mind upon another, and it is remarkable what power can be exercised over an insane person—his habits of attention and trains of thought—by a well-disciplined mind. Attacks of mental disorder may be cut short, infinite anxiety and risks saved to both patients and relatives, accidents avoided, suicides averted, and valuable lives restored to reason through the efforts of a good mental nurse.

It is essential therefore that we should obtain as high a class of applicants for asylum work as possible, persons of good character, and those who will make the welfare of the patients their personal interest, and who will persevere by example and precept to promote their recovery and well-being. It is only by providing surroundings suitable to their responsibilities that the best type of nurse—refined and cultivated women—can be encouraged to join asylum service.

With this preamble, which I admit has been at rather undue length, I would like to point out more especially that the duty cast upon the mental nurse of either sex to cultivate and improve their art—which in most instances is the re-education of the reason—psychic pedagogy as it is called—has furthermore another aspect, *viz.*, that the nurse owes also a duty to herself. Every person is bound to make his life worthy, and for this the nurse must have proper leisure, adequate rest, and opportunities afforded for mental and physical recreation. It is only by means of proper leisure that self-culture can be possible, and the best self-culture helps to enthrone the sense of duty within us. Sir James Crichton-Browne, in his Presidential Address of 1902, referred to the nurse's recreation, and that he might see nurses mounted upon suitable motor cars, after having shown competence in golf and bridge! Although these are probably figurative and hyperbolic attainments, yet there is no question but that the asylum nurse should receive

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ample opportunity for bodily, and more especially for mental, improvement.

In the life of Darwin we are told how his father, Dr. Darwin, declared that he had "often seen the paramount importance, for the sake of the patient, of keeping up the hope and with it the strength of the nurse in charge."

In my few remarks, I have chosen more especially to dwell upon the mental aspect, in order to advance the claims for mental diversion, which, in my opinion, are equally as, even if not more, essential to health than are the purely physical claims. The mind must have occupation, for lack of interest and idleness lead to irregularities, and if the mind is kept busy and well disciplined the person is true to the best of himself.

The mind of each one of us is probably endowed with a vast number of gifts of totally different variety, and, like the limbs of the body, if they are not exercised they waste and we are crippled.

It is of supreme interest therefore for the mental nurse to possess a well-arranged mind, for she has to be buoyant when hope can scarcely be entertained, and if her own mind is right it helps to correct what is wrong in others and to mollify what is hard in her special surroundings. She has to dignify labour of whatever kind in order to educate and encourage those around her. She has to realise the maxim that sowing corn or writing epics is work which can be equally elevating, that the faculty of effort is necessary for both, and that to master things is to insist on oneself, and thus to be true to the best of our individual self.

Of the pleasures intermediate in tone between the bodily and mental are those afforded by gardening. Our men know the mental value of this diversion, for it teaches patience, quickens curiosity, it induces hope and tender ways, it affords pleasure to others, and it has the charm that something has been accomplished by oneself which is beautiful and varied, and thus is twice blessed. I have seen effects which delight the eye and scent the air from a few seeds sown in window-boxes or flower-pots, and the delicate appreciation of colour together with its artistic arrangement, and for which ladies are famous, prove that women are *par excellence* adapted for gardening effects. Of the two cults which in recent years have received more attention than any other, *viz.*, the care of

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children and of gardens, I believe their advancement to be due to the fact that they have been the objects of serious study on the part of capable women. Even one species, such as the Linum or the Geum or the Salvias, or Saxifrages, in its many varieties, can be made a study of by any ordinary person, and even where there is no full scope for gardening, Nature herself, in her own time and way, profusely scatters plants which can become the museum of the collector; the name, date and *habitat* of the collected specimen reminding the nurse of many happy associations, at the same time giving point and object for her rambles, and cultivating her powers of observation and her aptitude for describing and reporting. Probably, of all the pleasures which can refresh the mind, there is none more invigorating and strengthening than reading, which to the mind is what physical exercise is to the body, *viz.*, the best preservative of its strength and efficiency. It is the most soothing remedy for many of the ills of the body, and the position of librarian to a mental hospital or an asylum is one of the most pleasure-yielding posts, *i.e.*, if there is adequate literature to circulate, as there should be. I think that reading aloud should be cultivated by nurses, and their usefulness and value might be further enhanced if they were to take lessons in elocution from competent teachers. I believe that many mental patients would be soothed by good and clear reading aloud to them. I know its value with children.

It is chiefly through books that most of us have enjoyed intercourse with great minds, by whose intellectual companionship we are at the same time entertained and elevated. It is consoling to know that no matter how poor a person may be, there is the knowledge that the best characters never refuse to cross his threshold. In this way some of the most charming lives that have adorned literature are drawn into our own circle, in which we find ideals to love and idols to worship. I think that good reading, which may equally be the diversion of young and old, rich and poor, ill and well, forms the best counteracting agency to unworthy temptation.

With the number of foreigners in our great cities and their asylums many of our nurses have the opportunity for learning a foreign language, and such an interest may be the means of kindling a sympathy between herself and the patient when other means have failed. In these days of short cuts to attain-

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ments text-books are cheap, and a little progress every day may mean much progress in a year!

There is a great consolation to the tired and too often despondent mind of the mental nurse in the reading of poetry, which is really musical thought, and it is curious that the great Darwin expressed regret that he had not devoted more time to poetry as an intellectual diversion, showing that he desired to relax his logical attentions by an exercise of the imaginative faculty, and in the words of our President, to familiarise himself with "the language of the heart rather than that of the head." It is gratifying for me personally to know that one of my own staff, possessed of the true poetic spirit, delights the readers of the *Asylum News*, and that he is no less distinguished as a kind, orderly, and conscientious mental nurse.

I am convinced that the Executive Committee acted most judiciously when they introduced prizes for the study of literature in our own reading circle among our nurses. My own experience of introducing a circle of the Home Reading Union convinced me not only that it was possible to obtain pleasureable intellectual diversion from reading upon a definite syllabus, but that a taste for wholesome reading could thereby be initiated and cultivated. During one winter at Claybury we read out of penny copies, John Bunyan's *Pilgrim's Progress*, "The Merchant of Venice," "Hamlet," and Wordsworth's poetry, and on each occasion the discussion which followed showed how much meditation and study had been given to this diversion.

The influence of music was well exemplified by the Society of St. Cecilia, which based its efforts upon the purifying influence of music on our emotional nature. In the Berlin Charité Hospital concerts are given on every Sunday afternoon from 5 to 6.30 for the benefit of the patients. Witness the ethical results of music in the missions of Sankey and Moody, of Torrey and Alexander, of the Salvation Army, and of the Church Army with Prebendary Carlile at its head. Music charms away care and anger and terror; it delights the ear, soothes the tired nerves, composes the thoughts, dispels morbid ideas and recreates the mind. It might be worth while applying the experimental method for the determination of the effects of music on the circulation and on the nervous system,

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and thus indirectly on other functions of the body, in a more serious and systematic way than has hitherto been done. Some of my hearers may not be aware that Elgar, now numbered among the Immortals, was formerly interested in the band of the Worcester Asylum, and at one time conducted it. However, it is not often that we get an Elgar to guide our musical staff, but the services of those who *are* talented always command a ready appreciation, and one of our own nurses at Claybury was afforded such facilities for the cultivation of her talents that she entered the lists of competition and successfully carried away some of the best prizes in our immediate neighbourhood. The pleasure she afforded to others has left happy reminiscences of her devotion to an art which can be the handmaiden to duty, and which she now exercises in a higher and a wider sphere at another place.

The great philosopher, Carlyle, described music as " the inarticulate speech which lets us for a moment gaze into the Infinite."

Painting and pictures are also well known as branches of æsthetic art, and they have their due place in the relief of mental fatigue and as antidotes to the monotony of routine, which cannot but be the inevitable lot of the asylum nurse. Sir Joshua Reynolds said that a room hung with pictures was a room hung with thoughts, and we as mental physicians practise this precept, for do we not make a great point of decorating the walls of our mental hospitals with these consolers to the lonely and the brain-weary? How often do we see the sick in mind gaze into illustrations in books, or prints upon the walls, and in this way obtain representations of healthy ideas which help to direct their thoughts once more into normal channels? In this connection, the value of pictures cannot but find a ready response in our President's heart, for some of my own earliest appreciation of pictures was due in a great measure to the influence of the artistic mind of our President's father, whose academy pictures from his own brush will always be to me a happy recollection.

I may be permitted to state that our President himself has not neglected this side of his versatile genius, and I expect that he still appreciates the pleasure afforded by this diversion in a busy life.

How many of us have put in a spare half-hour at the National

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Gallery and refreshed our thoughts with the inspiring genius of some great painter until we think we understand and love him —for a great picture is also a great moral lesson? Art is a sweet consoler, and, unlike a book, pictures can be gazed at without sustained effort, for when the eye is fatigued the mind can then relax its attention. At the Claybury Asylum some of our nurses' private rooms demonstrate how much interest can be taken in, and how many happy recollections can be preserved through the love of art. The days of the "kodak" are so obstrusive that I will pass over its ubiquitous transports, merely remarking that I possess many volumes of its productions, and I confess to a lingering attachment for its more or less libellous —often more—representations of men and things, and I would also add of women and children!

There is one other aspect upon which I should like to dwell. It received a dignified allusion from our President in his address last May, and that is the religious influence in the life and work of the mental nurse. Much has been said upon this aspect, and there are those present before whom any remarks of mine may possibly appear to be a presumption, but from the psychological aspect alone there is a consolation in spiritual belief which no other emotion affords.

Religion is a part of man's nature which cannot be banished or repressed, and there is in every breast a longing and a yearning for its comforts. That hopeful look into the future, from which no one has yet lifted the veil, is the foundation of much of our faith and belief. History has preserved many instances of the repression of our hope and faith and creed, but these have emerged from the struggle, and in spite of opposition and conflict are to-day as dominant in the minds of many of our workers as they were in the days when the mediæval Church was the sole custodian of our knowledge and of our ideals.

Religion implies a sacrifice and a service to others, and it tends to subordinate man's will to higher ideals. The self-denial it rouses yields a gratification which can compare with no other. It implies the ordering and the submission of our nature to that of something transcendent, some great Power immanent in Nature itself, and yet which lies behind and directs Nature. I will not dwell upon this aspect further than to state that its influence is to mould character, to place a higher value upon duty, and to stimulate that highest attribute of man's mind, *viz.*,

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the spirit of love and reverence. Spiritual agencies kindle emotions of fervour, sympathy, and right-mindedness even among our roughest characters and in the most crowded areas of our large cities, and opportunities for cultivating this side of our nature should be placed before every one of our workers. It is through influences of this kind that what is best and noblest can be elicited and developed.

In conclusion, I may be permitted to state that into whatever sphere a well-trained and sympathetic mental nurse enters, there the standard of life is raised, for she brings enlightenment and encouragement to her patients upon such subjects as cleanliness, self-discipline and self-control; thrift, the home, and the care of the young.

I should be wanting in my duty, as the head of a large institution in which so much of its success depends upon the nurse, if I did not advocate her claims for mental diversion as well as for physical recreation, and plead her cause for a liberal support of the Home of Rest Fund which endeavours to meet both these claims.

(1) Address delivered before the Asylum Workers' Association, May, 1908.

Observations on the Less Severe Forms, Pathology and Treatment of Mental Disorder in Advanced Life.

By ALEXANDER ROBERTSON, M.D., F.F.P.S.G., Consulting Physician Glasgow District Lunacy Board; Visiting Physician, Old Men and Women's Home, Glasgow.

THIS communication is based on a study of cases in Glasgow's Aged People's Home. The Home is for those in reduced circumstances, but above the pauper grade. It has accommodation for 140 men and 86 women. Reference is made to this point to enable a general inference to be drawn as to the proportion and frequency of cases of the more acute though brief forms of mental disturbance among the old; for with one exception they all occurred within a period of two months since the beginning of the present year. However, looking back over the last twenty years, my impression is that the number of cases here recorded is above the average of our previous experience.

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It will be understood from the nature of the establishment that the more pronounced and continuous forms of mental disease are not retained. When they occur, as happens now and again, they are removed to an asylum for the insane.

The Walls of the External Blood-vessels as an index of the Condition of those within the Cranium.

Many years since (1) I directed attention to the relations of the temporal arteries to the branches of the internal carotid distributed to the brain. Having the same parent stock, the common carotid, it was pointed out that there was considerable correspondence in the condition of their respective walls in states of degeneration. If, it was stated, the temporal arteries were indurated, those within, supplying the fore and mid-brain, would, in all probability, be found so also.

Further experience of my own supported this conclusion. It was also corroborated some years later by Dr. McRorie, then Assistant Pathologist, Glasgow Royal Infirmary, who published a valuable paper entitled, "Atheromatous Disease of Arteries," in which he treated the subject more widely (2).

In the summary of his conclusions he states in regard to the point under consideration, "A tortuous or rigid temporal does not necessarily mean that the cerebral vessels are atheromatous, but it is well to presume that they are so."

It would, however, as I pointed out in my paper, be a mistake to infer from such remarks that the absence of rigidity in the temporal arteries is suggestive of a sound state of the cerebral vessels. On the contrary, it is not rare to find the latter diseased, while the walls of the former are soft and apparently in other respects normal.

The practical corollary to be drawn from these statements is, that when symptoms point to the presence of disease within the skull, particularly in patients past middle life, the state of the temporal arteries should be ascertained. This is easily done by running the finger along their walls in their course in front of and above the ear.

Brief Maniacal Attacks.

Excitement of short duration, accompanied by a varying amount of intellectual disorder in different cases, is probably

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the most common, as it is the most disturbing variety of mental derangement met with in the Home. Two groups of cases occur—one apart from obvious organic disease of the brain, the other associated with it.

The three following cases illustrate the first of those groups, and may be classified with the so-called functional mental disorders:

T. H—, æt. 75, shipwright, teetotaler for forty years, has been a much respected man; is somewhat deaf, but says, "as is usual in my trade," sight good for age. Heart and lungs are free from obvious disease; radial and temporal arteries hard and tortuous, especially the radial.

Prior to the onset of his mental disorder on January 17th he was a little peculiar in his manner of speaking. On that date he became much excited in one of the halls of the Home. He was then removed to the sick room and put to bed. There he was violent and could be controlled with difficulty, took off his night-shirt and messed the bed-clothes.

The maniacal condition passed off in about three days. He then became rational, but was depressed and physically somewhat exhausted, also complained of headache. When asked as to the cause of his illness, he said that his son-in-law had not sent money to pay his board in the Home. This was scarcely correct, though there had been a little delay in forwarding the usual remittance.

Since then he has remained well, except that on February 10th and 11th he complained of headache and was a little confused mentally, so that he had difficulty in finding the way to his dormitory. This condition, however, quickly passed off, and within a week he was able to transact business correctly at a bank.

Mrs. W—, æt. 82; is in fairly good bodily health and condition. Heart and kidneys apparently normal. Both radial and temporal arteries are thickened, the right temporal more than the left.

On admission to the Home on February 4th she was a little excited and restless. Within three days excitement increased considerably, so much so that it was feared it might be necessary to have her removed to an asylum. It was most marked at night; she was restless, noisy, would not stay in bed,

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and persisted in walking about the bed-room. There was, however, little mental confusion. No delirious ideas were expressed and her answers to simple questions were correct. As indicating her general intelligence while yet excited the nurse's remarks are worth quoting. On my asking her what she thought of patient's mental state she replied: "No one in the Home knows her belongings better than she does." Under treatment the mental excitement subsided in a few days, and she settled down into what has become her ordinary state of mind. She is somewhat childish both in conversation and manner—a condition that is not rare in old age.

T. H—, æt. 81, ploughman, four and a half years in Home. He suffers from cardiac disease, mitral regurgitation; pulse drops every sixth or seventh beat; both radial and temporal arteries are markedly hardened; sight pretty good; urine normal.

When in the ordinary wards of the Home he was said to be rather irritable, but no indication of mental unsoundness was apparent. He has been in the sick room for about three months and nearly always in bed through general frailty. About the end of January, without any apparent special cause, he became excited and confused, both day and night. This mental disorder continued about three days, when it subsided abruptly, and he was restored to his usual calm, composed habit of mind. He has remained so since then, except that on four occasions he has had brief attacks of rambling and mental confusion. These did not last above two hours, and occurred at varying times of the day; there was no accompanying excitement. In the intervening hours of these days his mind was clear and correct.

Remarks on these Three Cases.

They are fairly typical of the most common form of mental disorder met with in the Home. The most distinctive feature is their short duration—three or four days, and even two hours. The character of the disease did not differ materially from what is seen in asylums. In Case 2 the condition was one of simple mania—excitement without much intellectual derangement; in Cases 1 and 3 the mind generally was involved.

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Their treatment will now be considered. In Cases 1 and 3 it was thought that there was probably hyperæmia of the cerebral vessels, in the latter case passive rather than active. Accordingly depletion of these vessels seemed to be indicated; 2 or 3 gr. of calomel, followed in six hours by haustus niger or a Seidlitz powder was given. This, besides exerting a derivant action on the vessels of the brain, would clear away bowel toxines should any be present. Another part of treatment was the application of a poultice of equal parts of linseed and mustard to the nape of the neck for half an hour. A sleeping draught of paraldehyde, 2 drachms or 1 drachm, was also given—the safest of medicinal hypnotics for old people—but its influence was not great till the paroxysm had begun to subside. In Case 1, where the headache returned and was persistent, blistering liquid was painted on the nape of the neck. How far these simple and ordinary measures were effective in removing the morbid condition of the brain can only be surmised. That they were of use seemed very clear. However, only a *temporary* condition, such as a stasis in the blood-supply, especially of the frontal area of the cortex, could account for the speedy clearing of the intellect being possible.

Case 3 differed from the others in that there was well-marked cardiac disease present, along with equally well-pronounced disease of the blood-vessels. It is not easy to say how far, if at all, the condition of the heart was responsible for the mental disturbance. I speak thus doubtfully as it is remarkable how seldom the mind is disturbed in severe disease of the heart of any kind, unless there be accompanying congestion of the lungs and imperfect oxidation of the blood, with the presence of toxines. No doubt the mechanical arrangements within the skull, through which the required supply of blood for the maintenance of the functions of the brain is preserved, largely explain this comparative immunity from mental disorder in well-marked diseases of the heart. Still there are cases, such as the one referred to (3), where, when associated with disease of the cerebral blood-vessels, as in all probability exists in it, this element can scarcely fail to be an important contributing factor in the causation. Accordingly digitalis and nux vomica formed an integral part of the treatment, and were steadily given with, it was considered, beneficial effect on the cardiac action.

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Group II, where clear organic disease is present, is illustrated by the following case:

T. S—, æt. 81, ploughman, in Home two and a half years; took much whisky when young, not later; temporal and radial arteries only slightly hardened; heart and kidneys free from obvious disease.

About fifteen months ago he had an apoplectic seizure, with right hemiplegia, and was for several weeks confined to bed through the palsy of his limbs. He recovered to a great extent and has been walking about the wards during recent months, but with considerable drag of the leg and a little impairment of speech.

The special feature to which it is wished to direct attention is the maniacal attacks from which he suffers. On three occasions during the last year he has become suddenly excited, noisy, and incoherent in speech. He has not been convulsed during these attacks. They do not last above four or five days. During their continuance his speech is thicker and articulation less distinct than usual. At their close he gets up and walks about as previously.

In the intervals the prominent defect in the mental condition is emotional weakness. His replies to simple questions, though correct and intelligent, are often interrupted by an outburst of sobbing. Less frequently he laughs without cause, but the laughter generally ends with a sob.

Delusional Disorders.

Where definite and persistent illusions, hallucinations, or delusions proper are present, the condition amounts to the ordinary insanity of asylums, always presuming that the patient fails to admit the fallacy of the imaginary impressions. Here also the cases may be arranged in two classes, namely those in which obvious organic disease is absent, and those where it is clearly present.

(1) *Without organic disease.*—Mrs. M—, æt. 91, in home about six years; bodily health has been good during her residence; heart and kidneys are free from obvious disease; right temporal and radial arteries are hard and tortuous, left ones less so.

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Her general intelligence is good, and she is of a cheerful, happy disposition. No mental disturbance was noticed till about eighteen months ago when she said that some of the other ladies were wearing her clothes. This delusive idea soon passed away and she remained apparently well till a year since, when she declared she saw trees and shrubs growing in the lobbies of the Home. She sought the help of others in walking from room to room to enable her to avoid the fancied obstacles, so vivid were they in her imagination. These also seem to have passed away in a week or two; at all events she ceased to speak about them to the nurses or other inmates.

Towards the end of 1907 she was admitted into the sick-room on account of general frailty. This room commanded a view of a neighbouring chapel. After two or three weeks while she lay in bed she began to say that she saw on the ridge of the chapel-roof a young man and a young woman standing together. She said that they came there in the morning about 8 o'clock and stayed all day. When reasoned with on the impossibility of her impression being in accordance with fact, she replied, "I must believe my own eyes; seeing is believing." No other delusive idea was manifested and her general conversation and conduct were correct during the time—about a month—she remained in this room. She was then changed to another one where the outlook from her bed was different. There was still a building in view, but of another kind from the one seen from her former apartment. Here I was much interested to find that the usual hallucinations were no longer present. But their absence was not for longer than a fortnight. Then one morning she told me that the young woman had returned but was alone. Two or three days later she said that her companion was once more with her on the roof. Since then, in her view, they have continued to occupy their elevated seat, but not so uniformly; sometimes they would be absent, and at other times, though present, they would be under the cover of an umbrella or within a fancied small house perched on the highest part of the roof. Still later, along with these false impressions, delusive ideas like those that first troubled her were again revived, namely, that various people have been appropriating her money and her clothing. Apart from these morbid ideas, to which she seldom refers spontaneously, she talks and acts quite sensibly.

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G. S—, æt. 80, weaver; in home for three years. Is a healthy man, and has not been addicted to alcohol. Temporal arteries are moderately hard; radial scarcely affected; no undue tension of arterial walls. Sight and hearing good.

About a year ago through a fall he broke the neck of his thigh-bone, and has since then been confined to bed in the sick-room. Though rather odd in his ways and talk, no definite indication of mental disorder was noticed till four or five months since, when he complained to myself that numerous vermin were on his shirt and bed-clothes. Careful examination failed to show the slightest foundation for the complaint. After two or three days this morbid fancy disappeared, but within a week later he became sleepless and noisy at night. He said that someone, and he specially blamed a young man by name, whom he knew outside, got under his bed and thrust needles and other sharp instruments through the mattress into his skin. He made repeated and vigorous efforts to get hold of his imaginary assailant, and in this way disturbed the other inmates considerably.

Under the action of potassium bromide during the day, with paraldehyde or trional at bed time and careful attention to the bowels, the excitement quickly subsided. The last delusive idea, however, though sometimes apparently almost in abeyance, does not seem to leave him entirely. Now and again it becomes pronounced, usually at night, and is then accompanied by a little excitement.

It will be observed that the hallucinations in this case are tactual: sight, hearing, taste, and smell have not been affected. At the same time there is an almost constantly continuous delusive idea present in his mind that his stinging pains are due to the persistent malevolence of one now at a distance, but with whom he was acquainted in the past.

(2) *With organic disease.*—I. S. H—, æt. 81, farm servant; in home three and a half years; took much whisky when young, little latterly. His heart and kidneys are free from obvious disease; right radial and temporal arteries are moderately firm; left ones less so.

About eighteen months ago he had a severe apoplectic attack, with right hemiplegia; speech was greatly impaired, along with almost complete loss of power of the affected limbs at the time, but after three or four weeks all the symptoms

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began to improve, and a month or so later he was walking about, though with an obvious drag of the leg. Articulation was defective, but there seemed little, if any, loss of language.

About a year ago, while in this improved condition, he had a sudden attack of unconsciousness. He remained so for nearly two days, when he gradually emerged from it, but became restless and excited, and spoke, or rather mumbled, incoherently. After nearly a week he recovered from this state, and his mind was then apparently as clear as prior to the onset of the seizure. At intervals of some months he has had two other attacks of a similar kind. His recovery from them has been remarkably good.

Reference will now be made to his general mental state. Since the apoplectic seizure, and in the interval of the attacks above described, the most striking feature of his conduct has been the expression of emotional weakness. After answering a few questions correctly he usually breaks down into a fit of loud sobbing, which soon subsides if he is not further spoken to. His intellect, as stated, is clear and correct, but this remark only applies to ordinary simple matters, otherwise it is probably much impaired in strength.

Remarks on the Delusional Disorders.

Hallucinations and delusions proper are more stable than the maniacal conditions in the old. Yet both Cases 1 and 2 show greater variability than is usual in the paranoias of asylums. In Case 1 delusions about being robbed were present only for a few days on two occasions at long intervals. Again the visual hallucinations about trees and shrubs growing in the lobbies of the Home were seen during less than a week a year ago. On the other hand, the remarkable hallucination about the couple whose seat was on the ridge of the roof of the building opposite has persisted for about two months with a short interval, concurrent with her removal from one apartment to another. But it, too, is subject to a degree of variability. Thus yesterday, as I write, she said to me at my visit about the dinner hour: "Look," her eyes being directed to the roof opposite, "they're no there now; they'll have gone for their dinner, they'll be back again soon."

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The hallucination had then disappeared, but the delusive conviction of its genuineness was as firm as before.

In Case 2 the delusive idea proper and the tactual hallucinations have been nearly uniform in their character, but the latter on three or four occasions during the last two and a half months have seemingly been in complete abeyance, at all events the patient has not made any allusion to them, and he has been calm and rational in the intervals of their occurrence.

In the case associated with cerebral lesion consequent on apoplexy, no derangement can be properly said to be present. The permanent condition is one of mental, especially emotional weakness. I did not see him at the outset of the attacks of unconsciousness described. I do not regard them as epileptic in their character. They seem to be more allied to certain of the attacks to which many general paralytics are subject. These usually leave the sufferers mentally worse, more or less, than before their occurrence. On the contrary my patient is not appreciably worse either in mind or body since his seizure.

General Observations.

Leaving out of consideration the organic lesion of the apoplectic seizures, with the resulting mental enfeeblement, too serious a view need not be taken of the maniacal attacks in old people. They are usually comparatively short in their duration and mild in their character. This is shown by the fact that the cases narrated were treated in the wards with patients suffering from ordinary bodily troubles, under the care of female nurses. They were, however, kept as far as practicable apart from those who would be readily disturbed. Further, the attacks themselves, as illustrated by the cases, are very amenable to treatment.

It is otherwise with the delusional disorders. The intellectual derangement rarely disappears altogether, though, unless revived by reference to the subject of it, the delusion appears to fall out of consciousness occasionally for considerable periods. With respect to the sensorial disorders, the visual hallucinations, at least, sometimes change their forms readily. This is illustrated by the experience of the nonagenarian lady, who as narrated, at one time saw imaginary trees and shrubs, at

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another figures of a man and woman together—the most constant—and, at a third, the dwelling only of these ideal forms. They may, however, be much more constant in their character, as in the case of the tactual hallucinations, which latterly have been always the same on each recurrence.

As a rule, temporary subsidence or even apparent disappearance of delusive ideas and their recurrence are more striking features of mental disorders in the old than in the previous periods of life. When the alterations in the blood-vessels referred to in the earlier part of this paper, together with the well-known degenerations in cells and cell-processes in senility are considered, one cannot fail to realise the probability of partial or even complete blocks in the circulation of short duration occurring in small or even large areas of the cerebral cortex, with consequent and proportionate interference with normal mental action.

In drawing to a close, though outside the range of my subject, I shall refer very briefly to the statements of various writers to the effect that melancholia and hypochondriasis are common forms of the mental derangements of old age.

This is not my experience in the Glasgow Home. On the contrary, though I have met them both, they must be considered rare in view of the large number of inmates and the not infrequent changes from various causes that occur amongst them. The immunity from these troubles depends largely, I doubt not, on the careful attention to such common-place details as the provision of an abundant supply of good food, well cooked; warm clothes; comfortable beds; and the maintenance of a warm temperature, adequate for old people, both in parlours and sleeping apartments. Along with these essential conditions, kindness, tact and forbearance are shown to the inmates by a superior class of nurses who attend to them. Provided the conditions and arrangements are such as promote bodily comfort, and are otherwise favourable to a tranquil state of mind, the advent of melancholia and hypochondriasis need not be feared.

(1) *Glasgow Med. Journ.*, vol. i, 1866, p. 140.—(2) *Ibid.*, vol. xxxviii, 1898.

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Dementia Præcox and Mental Degeneracy in Syria.

By H. THWAITES, M.R.C.S., L.R.C.P., late Medical Superintendent, Lebanon Hospital for the Insane.

IN the realm of mental disease any finger-post which points a way through the entanglements of ætiology is worthy of consideration. Present-day tendency is to magnify external at the expense of internal causes, a cart-before-the-horse policy which must bring confusion. Comparative lunacy endeavours at least to reverse the position and to start straight by tracing the affinity of form which exists between national brain types and their insane corruptions, or by showing variations in the relative incidence of disease forms and co-ordinating these with dominant social or biological factors.

The chief point brought out by a three and a-half years' study of insane conditions in Syria is the predominance of one form, for which the great difficulty has been to find a sufficiently comprehensive term; the only one which has seemed at all adequate, *viz.*, "dementia præcox" as defined by Kraepelin in Johnston's valuable translation of his *Lectures on Clinical Psychiatry* has been met with considerable opposing bias on account of preformed ideas based on our somewhat insular conceptions, but such prejudice has been scattered to the winds by the fact becoming more and more clearly revealed that there is no term which so faithfully represents the form in question.

In the following records of the Lebanon Hospital for the Insane, for the three years ending September 13th, 1907, the danger of treating the term with too much elasticity has always been present. Symptoms readily overlap at the fruitful period of adolescence; the outward similarity of dissimilar forms is even more pronounced where language difficulties bar the way of approach, and cases of congenital amentia, and particularly of maniaco-depressive insanity, where thought and volition are much obstructed, have been liable of inclusion. Errors of diagnosis are more likely to occur in dealing with men and women of a foreign tongue, and correction for the personal element is probably more necessary where statistics stand alone, but in spite of possible discrepancies the broad truth which these statistics convey may be insisted upon, and it may be inferred that with successive years a greater degree of truth is reached,

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and that the larger percentages of the last year are more correct than the smaller ones of the first year.

These statistics may be thus tabulated:

Number of Admissions.

Year.	Men.	Women.	Total.
1904–5	62	30	92
1005–6	53	44	97
1906–7	55	30	85

Cases of Dementia Præcox.

Year.	Men.	Women.	Total.
1904–5	17	5	22
1905–6	20	6	26
1906–7	20	6	26

Percentage of occurring Dementia Præcox each Year.

Year.	Men.	Women.
1904–5	27·4	16·6
1905–6	37·7	13·6
1906–7	36·3	20

Average Yearly Percentage for the Three Years.

Men	33·5
Women	16·3

Variety of the Disease.

Year.	Approximately hebephrenic.	Approximately katatonic.	Approximately paranoid.
1904–5	13	8	1
1905–6	18	7	1
1906–6	12	12	2

Variety of Disease in the Different Sexes.

	Approximately hebephrenic.	Approximately katatonic.	Approximately paranoid.
Men	36	17	4
Women	7	10	0

It will be seen that more than one-fourth of the admissions to the asylum, *viz.*, *27 per cent.*, are sufferers from dementia præcox, a fact which is confirmed by a study of the chronic and often

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grossly demented inmates, who, even in their advanced stage, still present symptoms revealing the nature of their malady (of 66 chronic and confirmed cases, 33 or 50 *per cent.*, were cases of dementia præcox).

Further, of all the occurring cases, half are of the hebephrenic variety, about half are katatonic, and a very small proportion consists of the paranoid class. The disease is twice as common in men as in women, whilst male cases incline towards hebephrenia, female cases to katatonia.

The difficulty of locating many of the cases was great. In the hebephrenics particularly there was a tendency to relapse into stuporous condition, bearing a superficial resemblance to the milder phases of katatonia, and the fact has been clearly displayed that the above classical grouping is purely arbitrary and of convenience only for descriptive purposes, and that the motor phenomena of the katatonic, the delusions of the paranoiac, and all the *outré* manifestations which appear in such profusion have seemed accidental, the underlying and fundamental element in all cases having been clarity of perceptive power, with want of psychical feeling; so much indeed has this been the case that the varieties might well have been classified in accordance with the degree of involvement in this latter essential feature, which has presented itself at one extreme as indifference and at the other as profound stupor. Following Bolton's ideas, the pathology would seem to be a question of the degree of evolution of the psycho-motor area of the brain, and the extent of accompanying neuronic dissolution.

To enumerate the points about the disease which have asserted themselves most prominently, these are:

(1) Dementia præcox is an independent disease entity.

(2) Though it may assume a variety of form the disease is *one*.

(3) The unifying factor is the presence of the comprehensive faculty with want of feeling.

(4) Other symptoms, though abundant, are not essential.

(5) In order of frequency, the most prominent of the other symptoms are—stupor, negativism, stereotypism in speech, attitude and conduct, forced actions, automatic obedience.

To account for the undue prevalence of this disease in Syria is more difficult than the mere enunciation of its existence, but the purport here is to suggest that dementia præcox is the

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exaggerated expression of a mental degeneracy, the roots of which are to be traced outside asylums in the average mental constitution; the strong resemblance which exists between it in its essential feature and the mental type common in the country points strongly to an inner connection, and leads to the proposition that the condition is one.

All who have had to do with the care of the insane will have experienced great difficulty in answering the question of causes so painfully imminent in the minds of friends, the reason for such evidently lying in the fact that to answer correctly, an adequate explanation of developmental psychology is necessary, and unless it be in the case of trauma or in the somewhat doubtful case of toxic insanity, no single cause can be stated as efficient. A closer study of insane conditions from the developmental side would seem the best way to obviate such difficulty, and it seems not unreasonable to suppose, in this connection, that the whole question is a dispositional one, that certain dispositions commonly met with are the immature counterparts of the morbid mental states which fill our asylums, the diseased state being merely an evolution of the so-called healthy one. Thus is the germ of maniaco-depressive insanity found in persons regarded as insane, in their impeded thought and volition; the confirmed hypochondriac was not always certifiable; the paranoiac was known in his youth to be subject to extravagant, self-opinionated, plaintive conduct; and thus is dementia præcox to be found in an immature form in the supineness, apathy, and phlegm of the Syrian youth who seems to have but a half hold of consciousness.

The physiological characters of a race are mirrored in its conventional and idiomatic use of the language, and there are no expressions in Arabic more frequently or variously rendered than such as in English would be translated, "What matter!" Such expressions of indifference reflect a national failing, and are born of the spirit of fatalism so ingrained in the Oriental's conception of life, but in Syria also as a part consequence of centuries of national dependence and subjection to foreign rule, and they depict the normal attitude towards life's affairs, grave or gay. The Syrian servant girl, for instance, who, whilst washing dishes, drops one, will proceed with the rest without any show of concern, and without even stooping to pick up the pieces. Such a state is a congenital one and may be included

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amongst those examples of morbid personality which are the product of mental degeneracy.

From introspective analysis, the safest form of psychological inquiry, this particular form of degeneracy is found to be dependent upon diminished psychical feeling, that subtle sense of which we are well aware, which forms the incentive to all acquisition, but which is strongly resistant to faithful description; and upon such hypothesis it shares the same foundations as dementia præcox, the diagnostic symptom of which Kraepelin states to be "the peculiar and fundamental want of any strong feeling of life's impressions." Diminution of feeling, therefore, is the first step of a decadent process, the final stages of which only are so pronounced that asylum care becomes necessary, but which throughout its course may be regarded as dementia præcox. Whether such feeling be an independent brain function having its physical substratum, or whether an integral suspension of the intellectual faculty without separate material basis has never been satisfactorily determined, but we can assume that it is vitally associated with thought and ideation, and is essential for production in this sphere, whilst our present inquiry leads us to the conclusion that with its degradation there is an associated, possibly a consequent change in the higher cerebral levels, leading to apathy and indifference to current events, to retrogression of all the higher attainments, and finally to their substitution by stuporous and subconscious states. Such backward extension in the process of degradation, from function to structure, is simply the operation of a natural law than which none is more certain, and which is illustrated beyond any manner of doubt in the wasting of muscle from disease.

The structural development of the brain depends upon its environment, the latter being to it what soil is to the implanted seed. If this now fail to produce the constant traffic in impressions which results in ideation and life to the growing organ, convolutional starvation will be its lot, and this result will be the same for a healthy and a constitutionally defective brain, the only difference between them from the point of view of environment being, that in the former it is of primary, in the latter of a secondary importance.

Now, such dwarfing effect will appear first in the most conspicuous life-function of the organ, *viz.*, consciousness, and it

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certainly seems that in the inroads made in this direction, in disintegrations of consciousness we have the key to the position in dementia præcox. Pierre Janet has thus attacked hysteria from the mental side, and in his theory of double personality we have a more adequate explanation than has yet appeared of many of the strange manifestations of that disease. From the fact that many dementia præcox cases grow upon an hysterical basis, and from the hysterical colouring of many of the phenomena which occur in this disease, *e.g.*, the cataleptic attitudes, it may well be that the two mental states are closely allied. Psychical feeling would thus be a term synonymous, or at least coextensive, with consciousness, and if it may not be defined as the grip on life, it is at least that upon which such grip depends, and lying at the threshold of an almost illimitable sphere of functional activity, it carries in itself the vital principle upon which acquisition in every department owes its origin. Evolution fails of its purpose if it does not implant this psychical feeling firmly and strongly in the individual as the basis for all cerebral development; its absence is the open door for disease and the dominance of subconscious states. Wordsworth, that great psychologist, in "The Excursion," thus depicts the vital principle pervading the human mind:

> "The food of hope
> Is meditated action, robbed of this
> Her sole support, she languishes and dies;
> We perish also, for we live by hope
> And by desire; we see by the glad light
> And breathe the sweet air of futurity;
> And so we live, or else we have no life."

The youth suffering from dementia præcox is one congenitally deficient, he enters upon his life struggle badly equipped because devoid of, or with diminished, psychical feeling, he cannot sustain the life of the brain at his own level of civilisation, far less so at the relatively high level which he may have to face, and the flickering flame dies out. This latter fact is well illustrated in returned Syrian emigrants from America. In the past year 20 *per cent.* of the admissions to the Lebanon Hospital belonged to this class, and their form of disease was a precocious dementia.

Is it, then, possible to trace any cause for so serious a lack in the mental constitution of the average Syrian? In the individual we may read the history of his race; his mental condition

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is the accumulated result of past influences brought to bear upon his germ plasm, and it is to these influences which have constituted the environment to which we should turn for the primary and efficient factor in the production of diseased states. Unfortunately it is impossible to individualise cause and effect and to know the actual share of each in the complex result, for this reason, that these causes, mostly of a social or moral nature, are themselves so complex and incapable of reduction.

But looked at in perspective, the history of Syria reveals certain influences always at work which make us infer an underlying connection between cause and effect in the resulting mental type now under consideration.

The annals of the country show almost continuous subjection to foreign rule; yet there was a time when Syria was to the Syrian, and we may conclude from Bible records that at that time the standard of civilisation was high, and the prevailing mental type in no way inferior. The Phœnicians, at least, their closely related neighbours, for many centuries we know were one of the foremost peoples in the world, and particularly in the realm of action; but from the time that the Syrians became servants of the Hebrew King David to the present day, they have been a dependent race and have been forced to put up with conditions imposed upon them by their rulers, with the result that independence of spirit has been stifled, and acquisition checked or suppressed in every department of mental activity. It is true that the Arabs for a time infused new life into the people, but such influence was short-lived and lost itself amid the supineness of the Turkish *régime*; and now art is almost unknown, science has few ardent followers, philosophy makes no progress, remaining content with past achievements, and religion amongst the Mohammedans is of a non-productive type, and among Christains, in the place of the birth of Christianity, is mostly a system of fetishism without the intelligent application of inner principles. The mental life of the masses is of a hand-to-mouth order consisting mostly of simple sense impressions, and with so little traffic between higher and lower centres that badly formed association tracts are inevitable, and limited mental capacity with paucity of ideas the rule. But the worst feature is that psychical feeling, or consciousness, or the *vis à tergo*, or whatever you may prefer to call it, is bound to suffer, and in extreme cases ceases to exist.

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It is inefficiency of environment then which has been the responsible factor in producing the type of brain wanting in a fundamental principle, and the lack persisting has become focussed in posterity as endemic degeneracy. Whole neighbourhoods, villages, and districts suffer rather than individuals here and there, and a vicious circle has become established which time and radical social reforms alone can alter. The individual born with a constitutionally defective brain enters an environment which tends to foster and increase his defect; without psychical feeling he ceases to be aggressive, the higher attainments are lost, and soon he retrogrades still further, and suffering from encroachments upon consciousness itself he permits himself to be governed by subconscious states, and shows it by his automatic, stereotyped, or negativistic conduct; he would revert to a purely animal existence were it not that past achievements cannot be completely obliterated. The wreckage of a once conscious organism must perforce include the *débris* of consciousness, and so we find the curious medley of intelligent and automatic phenomena which go to the make-up of the full clinical picture of dementia præcox.

Observations on Insane Epileptics Treated under Hospital Principles. By LEONARD D. H. BAUGH, M.B., Ch.B.Edin., Senior Assistant Medical Officer, Gartloch Mental Hospital, Glasgow.

IN this paper the writer aims at bringing into prominence some advantages derived from the application of the principles of hospital treatment to the care and management of insane epileptics. Much of the clinico-pathological work recently done on epilepsy tends to support the view that such treatment is correct; and, further, it is now generally accepted that treatment of the so-called "Acute Insanities" (mania, melancholia, etc.) on hospital lines gives the best results.

The cases studied are the epileptic admissions into the Gartloch Mental Hospital since its opening for the reception of patients on December 8th, 1896. Up till May 15th, 1907, the close of the last statistical year, inclusive of 36 epileptic imbe-

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ciles, the admissions numbered 162; of these 84 remained resident on May 15th, and formed 11·2 *per cent.* of our inmates. All came from, or belonged to, Glasgow, and were certified insane before they were sent here.

Age (on admission) ranged from fifteen to seventy-five.

The mental calibre.—In both sexes it is varied, and includes all grades, from the imbecile with epilepsy who becomes unmanageable at puberty to (*a*) the wage-earning artisan at the time of a mental breakdown closely associated with his epilepsy, or (*b*) the latent epileptic, if I may term her so, who only shows clinical manifestations of her epilepsy after having passed through the stresses of pregnancy and parturition.

To detail principles of hospital treatment is not necessary; it will suffice to merely outline the methods of procedure. That bed is the best place for a person when ill, and that, when ill, attention is appreciated, are two axioms accepted "*communi consensu.*" In this institution it is recognised that admissions are ill; they are therefore put to bed. The individual attention bestowed on the cases has always been an outstanding feature; to the beneficial results therefrom must be ascribed much of the good derived from treatment.

Admitted, and put to bed under constant observation, the epileptic is subjected to a thorough mental and physical examination. The patient is kept in bed in the admission ward for a variable period, for the amelioration of physical and mental symptoms, further study, and to receive individual attention. Diet is carefully arranged; milk is the usual start, as, almost invariably, the functions of the alimentary tract are found to be deranged. No bromides or drugs, except simple purgatives, are exhibited. Should the patient be taking fits a big enema, and a purgative by the mouth are as a rule sufficient to check the seizures. Marked improvement occurs under the regimen indicated, often within a few days. It then depends on the state of the patient, and the history obtained, whether the case is sent to another ward for further bed-treatment (largely out of doors), or to the observation ward for acute cases, for exercise, etc., or, direct to the epileptic ward. Many undergo both the outdoor bed-treatment, and the observation with employment and exercise, before reaching the division for epileptics.

For those in the epileptic sections, principles of hospital and colony management are combined. Useful employment, out-

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door and indoor, is provided; this, as far as possible, is devised to suit the cases individually. The food is specially prepared in the kitchen, and is largely carbohydrate. Apart from tea, which is allowed daily, the diet on four days of the week is purin free; on two days, to make it more palatable, a vegetable mince contains a small amount of fresh meat; on Sunday a moderate helping of corned beef is given each patient at dinner time. The meals are served in the wards; this not only makes for safety by facilitating observation, but prevents them being reminded daily that they are debarred from participation in the ordinary diets partaken of in the dining-hall. An atmosphere of calm is aimed at; a patient who becomes markedly excited or quarrelsome is put to bed and isolated from the rest while unsettled. Isolation in bed, which is a totally different thing from seclusion or restraint, appears to have almost as favourable an effect in some of the chronic insane as it has on neurasthenics undergoing Weir-Mitchell treatment. Absorption of toxines from the bowel is guarded against by the judicious use of aperients and purgatives.

We now pass to the advantages of the system followed. To illustrate these, summaries of observations are brought to your notice, and are placed under separate heads. The investigations, as far as they went, were carefully made; the facts and figures can therefore be accepted as accurate; the deductions that accompany them are the writer's, and are submitted as personal opinions and suggestions.

The turnover.—The following table shows the changes among our epileptic patients during the period of ten years and five months from December, 1896, to May, 1907. It is placed here, as the figures given have some bearing on points advanced in the paper:

TABLE I.

	M.	F.	Total.		M.	F.	Total.
Admitted	100	62	162	Discharged recovered	9	7	16
				" relieved	19	5	24
				Died	26	12	38
				Remaining	46	38	84
Totals	100	62	162	Totals	100	62	162

Recovery (mental recoveries).—It is advisable to state clearly that, in this paper, by recovery is meant, a return to soundness

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of mind normal to the patient before the onset of the insanity; the term does not refer to a cure of the epilepsy. In insanity, the result of epilepsy, a high recovery rate is not expected, but in this institution, investigation reveals a ratio higher than anticipated. In our cases the insanity resulted from, or was closely associated with, the epilepsy. That the phrases "resulted from" and "closely associated with" are judiciously used, and that cases in which epilepsy may be regarded as incidental are not included, the following illustration will show: A woman, J. B—, æt. 30, melancholic and hysterical, came to us as the result of alcoholic indulgences; these perhaps aggravated her epilepsy, but did not appear to be in any way the result of the epilepsy; therefore, neither on admission nor on recovery was she classed among the epileptic insanities, but was considered as a mania-melancholia, and the cause ascribed to alcohol and hereditary predisposition.

This point has been emphasised, as such cases, although not common, are met with; were they regarded as recoveries from epileptic insanity our percentage would be higher. Of the 162 admitted and considered, 36 were epileptic imbeciles who had never developed mental soundness; according to the definition of recovery accepted, none of the 36 could recover. We have, therefore, 126 that became insane from their epilepsy after attaining mental development. Sixteen (9 males and 7 females) of these recovered, which is a percentage of 12·6. It is worthy of note that only 3 of the 16 have relapsed into our care. The majority of the cases that recovered were in the bed-treatment and observation sections during the whole period of their sojourn. It is beneficial for recently-admitted patients, on regaining their acumen, to find themselves surrounded by hospital environment; they receive the impression that they have been ill and are being cared for; this inspires confidence, and is a valuable agent in the acquiring of patience and calmness. On rest in bed, the cessation of bromide, the elimination of toxines present, we depend to accelerate mentation and enable them to appreciate their surroundings. Calmness, after it is acquired, is strengthened by the continuation of the environment.

The three factors mentioned, namely—confidence in the staff, mental alertness, and calmness, are of use in promoting recovery; it appears essential to restore them if full benefit

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is to be derived from after-treatment, and without doubt it can be said that too much care and attention cannot be expended on attempts to establish them. To teach self-control, attention to personal hygiene, dependence on self instead of on bromides, a healthier, broader general outlook, are all points of importance in the gradual education towards recovery; but none of this teaching can be carried out without the establishment of confidence in the staff, calmness, and a moderate degree of mentation. Success, judged by recovery, is by no means always attained, indeed, only in 12·6 *per cent.*, but there is always a compensation (and a very appreciable one) that the after-care of the case in the institution is rendered easier, as no case fails to derive some benefit from treatment such as is carried out with a view to promote recovery.

Relieved.—These may be regarded as examples of the partial success of treatment, improvement being short of recovery. On no longer needing care in an institution like this, 24 were handed over to the custody of relatives or paid guardians. The above brief statement must suffice, as the field opened up for discussion of the stage, or stages, at which improvement is arrested is too large to be gone into here.

Deaths.—There have been 38 deaths among the epileptics. In 24, or 63·1 *per cent.*, epilepsy has been an important factor; in only 4, or 10·5 *per cent.*, has death occurred in, or closely subsequent to, the status epilepticus.

Status epilepticus.—This condition is defined in the *Dictionary of Psychological Medicine*[1] as "a rapid succession of epileptic fits without intervening consciousness"; it has since been aptly termed by Clark and Prout,[2] "the maximum development of epilepsy." The gravity of the condition, and the interesting clinical phenomena associated with it, have prompted many observations.

The prognosis has improved with clearer appreciation, but the opinion is held by many that there is room for further progress in combating this phase of the disease. Here an attempt is made to enter into partial consideration of the subject under sub-headings. It is hoped that the observations recorded will serve as an argument in favour of individual treatment on hospital lines, and that they may shed fresh light on a few points.

Status sub-headings: (A) *Percentages.*—Of our 162 cases, 9, or

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5·5 *per cent.*, developed at some time status epilepticus, a close approach to Dr. Turner's 5 *per cent.*[3] The attacks exhibited numbered 29; of these 4 terminated fatally, a mortality of 13·7 *per cent.* This falls short of Dr. Aldren Turner's 10·7 *per cent.*; but compares favourably with the 50 *per cent.* of Burney Yeo, Nothnagel, and Buisanger, the 45 of Lorenz, and the 33 *per cent.* of Clark and Prout, as stated by Dr. Raffle; and is rather less than half the mortality percentage of the series tabulated by Dr. Raffle[4] himself, as his figures from 27 of the insane at Exeter, if calculated in this way, give 34·2 *per cent.*

(B) *Analysis of* 29 *periods of status and the* 4 *resultant deaths.*—In accordance with the statements of others, the tendency to recurrence was found to be marked in the majority; 6 cases were responsible for 25 attacks, and 3 of the 6 accounted for 16, *vide* Table II appended. In this table, devised to summarise the analysis, for purposes of grouping, Dr. Aldren Turner's[3] 4 classes of status is the classification adopted. In the cases no signs of increased severity were detected on recurrence, notwithstanding that such signs were carefully looked for. Except in one man, the type of recurrent periods observed was mild compared with the classical description of Bourneville.[5] In Class I is the exceptional man; he exhibited four periods of status within four years. All were grave; three left him temporarily paretic, and he died in the fourth. In the intervals between, when free from paresis, he was often irritable, suspicious, violent, and dangerous to others; he also took, from time to time, fits. Classes II and III are grouped together, as the cases appeared at one time to answer to the definition "occasional acute development in cases of severe combined type," at another, to "single fits developing into short series, which increase into a status period." Here are placed cases showing mild recurrent periods of status. The term "mild" refers, as used here, more to the degree of pyrexia and the after-state of the patient than to the severity of the convulsions. To our institutional treatment, with all which that means, must be attributed the mildness noted, and to the same factor the credit appears due for what, if not an arrest of the recurrences, is at least an appreciable lengthening of the intervals between the attacks. In Class IV the condition usually arises as an unexpected development. Turner ascribes it to "accidental circumstances during the course of the dis-

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ease." On the abrupt cessation of bromide, or other sedative, being the cause of these periods of status with a sudden onset, both Gowers[6] and Clark[2] have laid stress. The cases studied belonging to this group were definitely epileptic, all had had major fits. In the three illness of an acute inflammatory nature preceded the development of status; in Nos. 8 and 9 there was also sudden discontinuation of bromide. All, after a short series of fits, passed into the status. No history of previous serial fits, or status, could be elicited, and the fact that the two under observation here for years—four and eight respectively—had never developed during their residence the gravest manifestations (serial fits, or status epilipticus) strongly supports the accuracy of the histories. On the other hand, they had, from time to time, shown marked psychic equivalents. The equivalents referred to were unaccompanied by convulsive phenomena, or loss of consciousness. The prognosis in this fourth class is regarded as unfavourable; practically all succumbed during the first status period. The case credited with two periods, under active treatment, only emerged from the first for a few hours before passing into the second, which proved fatal. If it be recalled that some authorities regard serial fits and status epilepticus as the evidence of toxæmia, probably auto-toxic in origin, and that the cases in this class, subsequent to the onset of acute illnesses, such as pneumonia and influenza, exhibited, but not until then, serial attacks which developed into periods of status, a point of some importance would seem to have been raised. From a limited experience of such cases, the tentative opinion is formed that these resulted from the action of definite toxines acting more or less directly on unstable nerve-cells, and that there is thus a line of demarcation between them and the cases in the other three classes.

(*c*) *Infrequency of status.*—No epileptic has been in a status period since November, 1905. The probable explanation will be referred to when serial seizures come under consideration.

(*d*) *Treatment of status* is directed to (1) the free evacuation of the bowel contents, (2) the administration of sedative, and (3) the giving of nourishment. With regard to No. 1, it is so prophylactic that with us it has been invariably acted upon before the patient has developed status; therefore, reference to such treatment should be with the explanation of the infre-

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TABLE II.—*A Summary of Analysis.*

Class.		No. of case.	Sex.	No. of periods.	Type of periods.	Residence.	Remarks.
Recurrent (auto-toxic ?)	I.	1. G. D—	Male 4	4 attacks	Grave 1 death	4 years in status.	Died in status.
	II and III.	2. M. N—	Female	7	Mild	8½ years	No status for 1¼ years before death.
		3. H. S—	Male	3	"	8 years	No status 8 months before death.
		4. A. S—	Male	5	"	6 years	No status 3 years, alive.
		5. A. Mc—	Female	3	"	2¼ years	No status 1½ years, alive.
		6. J. H—	Male 21	3 attacks	" no deaths	2¼ years in status.	No status 1½ years, alive.
Incidental (toxic ?)	IV.	7. H. F—	Male	1	Average	4 years	Died status (influenza).
		8. J. N—	Female	1	"	8 years	Died status (pneumonia).
		9. C. F—	Female 4	2 attacks	Grave 3 deaths	23 days in status.	Died status (ovarian).

quency of status. In the rare instances where status develops in spite of our eliminative prophylactic treatment, we have recourse to sedatives to combat the convulsions, and feeding to maintain the strength of the patient. Many drugs have been recommended strongly, and in many instances as strongly condemned. We have found a full dose of chloral hydrate (60 grains) given in milk by rectum reliable treatment, and have not experienced the injurious results dreaded by some. Should the chloral have been given while the patient was in the serial stage, and the status develop before it could act, or, if the convulsions are severe, the employment of chloroform to produce anæsthesia is useful; it checks the convulsions and conserves energy. To keep the patient under chloroform for ten to fifteen minutes is usually a sufficient time to enable the chloral to act; should not much improvement be shown a second full dose, or a half dose of chloral can be given, and the administration of chloroform resumed for another fifteen minutes. The cessation of convulsions may be regarded as the depth of

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anæsthesia to be maintained. Nourishment (eggs and milk) is given *per rectum* if the period is likely to be prolonged. Normal saline, one pint subcutaneously, counterbalances the deficiency in the supply of liquids; cardiac stimulant hypodermically should accompany the saline. The mode of administering nourishment, etc., detailed, is preferable to using the stomach-tube, if there is the possibility that chloroform may be resorted to.

Serial epilepsy.—Reference has already been made to the opinion of certain authorities that serial manifestations result from auto-intoxication. Our observations, as far as they have gone, tend mainly to support this view, but are, as yet, too incomplete to warrant putting into print. The cases here are remarkably free from serial fits; this, along with the infrequency of status, is ascribed to the portions of treatment regarded as prophylactic and eliminative. It may be contended and, granted, against the use of one of the terms, that much of treatment is prophylactic, *e.g.*, all diet, as carried out with us, is, and appears to have, a decided influence; but in using the terms conjointly, with special bearing on minimising tendencies to serial fits and status periods, the procedure referred to is as follows: Stated briefly, any patient who takes four fits within twelve hours is given an enema (patients who habitually take several fits a day are of course excepted), and if a fifth seizure occurs, the fact is reported to the medical officer. Influenced by time relationships, etc., the doctor decides whether purgative, liquids, chloral, or more than one of these should be given, and, if ordered, how. In a great many instances nothing is necessary after the enema.

Diet, mainly purin free.—This diet has been used for over four years; the general findings are much in line with Dr. Aldren Turner's, namely, seizures are not altered as regards frequency, but are less severe in character. Tendencies to serial fits, confused states, and dream states appear less marked.

Avoidance of bromide.—No sedative is given regularly unless under exceptional circumstances; the "*rôle* of chloral for emergencies," to quote Bevan Lewis,[7] is accepted. In rare instances hyoscine is requisitioned for marked excitation, whether evinced as pre- or post-paroxysmal psychoses, or as epileptic equivalents. To avoidance of daily sedative is attributed much of the comparative mental clearness, and the

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good general health of our epileptics. The following figures for May, 1907, show that the absence of bromide, etc., does not imply an excessive number of fits. The two on bromide got it to control irritability, not the fits.

TABLE III.—*May*, 1907: *Female Epileptic Ward.*

Patients.	Day fits.	Night fits.	Total fits.
25	135	150	285
1 took	47	13	60
2 ,,	0	0	0
3 ,,	0	a few	a few
2 ,,	a few	0	a few
2 on bromide	2	5	7
	1	2	3

Good general health.—Our epileptics are remarkably free from the blueness of extremities and fœtor of breath, etc., that so many writers refer to as found amongst such patients. Much of this freedom is attributed to the avoidance of bromide. That too much is not claimed in this regard the following illustrations will show: (1) Medical visitors have several times commented on the alertness, freshness of complexion, and obvious good health of our patients of this class. (2) We from time to time give full doses of chloral (60 gr.) yet find no bad results, despite absence of any precautionary atropine or other stimulant. (3) The appended table of weight, which might be compared with Table III, speaks for itself as a sign of health.

TABLE IV.—*May*, 1907: *Female Epileptic Ward.*

25 patients gave average weight 8 st. 11 lb.
Only 1 patient ,, weight over 11 ,,
,, 3 patients ,, ,, below 7 ,,
2 on bromide regularly, both below average weight.

In conclusion, first, I must express my indebtedness to Dr. Parker, the Medical Superintendent, who not only allowed free access to all the records of the Institution, but has been ever ready to supply information about the past of certain of the older patients, and to offer sound advice on points that were being observed. Next, the paper has been longer than

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originally purposed, but it is to be hoped that it has shown some of the advantages gained from the hospital methods used, such as:

The benefits from individual attention.

The attainment of a nearer approach to a physiological standard of health.

The preservation of alertness of mentation.

That the graver manifestations of the disease itself are lessened.

That mental recovery, where possible, is promoted and facilitated.

Lastly, although much has been done to improve the situation for the unfortunate sufferer from epilepsy by the colony system, much more should be, and, it is to be hoped, will be done. It is the firm conviction of the writer, that, when more is done, most good will be gained from the full incorporation of the principles of hospital treatment with the best principles of the colony system.

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Some Observations on Insanity in Jews.(1)

By HARVEY BAIRD, M.D., Assistant Medical Officer, Colney Hatch Asylum.

THE great majority of the insane Jews chargeable to the various London unions are cared for in this asylum. Special arrangements are made in order that they may observe the customs and rites which their religion demands of them. A Jewish Rabbi visits them and holds religious services. A Jewish interpretress is on duty daily. There is a Jewish kitchen, where the food is prepared in the manner they are

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accustomed to. At certain periods of the year they fast as they would do in their own homes.

The number of Jewish patients shows a yearly increase, especially marked in the last few years. In 1903 there were 282 Jews here, while last year the number was 421, an increase of 50 *per cent.* At this rate in twenty-five years this asylum will contain only Jewish patients.

This raises the question as to whether the Jewish Board of Guardians and London County Council might not consider the erection of an asylum for Jews only. It is possible, however, that the deportation of recent arrivals in this country under the Aliens Act may diminish the rate of increase.

One has, consequently, a good opportunity to make a comparative study of their insanity and that of their non-Jewish fellow-inmates. All the cases admitted here from January 1st, 1903, to December 31st, 1907, inclusive, have been analysed, and several striking differences will be observed.

The average admission age is much below that of the non-Jew. In the five-yearly period previously mentioned, 288 male and 299 female Jews were admitted; 35·3 and 34·9 were their average ages. In all the London asylums 41·6 and 41·8 were the average admission ages for males and females respectively in 1906. Thus it will be noted that the London Jew becomes insane some six and a half years earlier than his fellow citizens. The cause of this may be due to their more neurotic temperament, to greater stress and strain, to earlier marriage, with possibly sexual excess, and to the peculiar liability of the females to puerperal and allied insanities.

The histories of all the admissions here during the quinquennial period chosen have been examined with a view to giving some statistics as regards causation, and here again some striking differences are observed. I may remark that the histories have been taken with great care, a large proportion of them by Dr. Beadles, late senior medical officer here. Although believing that stress and strain may be a factor of some importance in the causation of insanity, I have not in comparing the two classes taken into consideration those cases in which such causes are alone given, nor have I done so where such conditions as fright, accident, masturbation, love affair, etc., are mentioned. A considerable number of cases have no history, and this is especially so in regard to the Jews, many of them

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having no relatives in this country. Of the 2714 cases, 586 had no history. Excluding these, of the remainder 24·5 and 34 *per cent.* of the male and female Jews show heredity, and 33·4 and 36·8 of the non-Jews. It is questionable, however, if heredity plays a less important part in the Jew, as information on such a subject is probably more often concealed, and a husband or wife is much more likely in the case of the Jew to know little or nothing of the patient's family. Probably heredity is about equally common in both classes.

A history of alcoholic excess, as would be expected, is much less common in the Jews. It was obtained in only 12·7 *per cent.* of the men and 2·6 *per cent.* of the women, as compared with 33·8 and 14·2 *per cent.* respectively in the other patients. In both sections, however, alcohol alone was rarely a cause, and I think it must be admitted that the majority of those who drink to excess are of a somewhat defective mental standard before they take to drink. At the same time the figures undoubtedly show that inebriety is a rare vice in the Jewish community.

A history of syphilitic infection was so rarely obtained in females as to be valueless for comparative purposes. In the men it was practically equally frequent in both sections, *viz.*, 5·5 and 5·7 *per cent.*

In regard to insanity associated with the puerperium, pregnancy, and lactation, we find a remarkable disparity. This is the difference that strikes one most forcibly when examining these cases. For the Jews the figures are 12·1 *per cent.* puerperal, 3·9 *per cent.* pregnancy, and 3 *per cent.* lactation; for non-Jews 5·4 *per cent.* ·5 *per cent.*, and 2·1 *per cent.*, or putting all together 19 and 8 *per cent.* respectively. Dr. Beadles in 1900 found the figures to be 15 and 6·18 respectively.

The causes of this increase in insanity associated with child-bearing may be several. The Jews usually marry earlier, about twenty-four and twenty-two I am told are the usual ages. Their fecundity is great, about five to eight being the usual family. They are probably more moral and domesticated, but after marriage sexual excess is probably common. Intermarriage is more frequently to be expected than in the non-Jew. The Jewess being of a more neurotic temperament, and becoming pregnant at an age when neuroses are likely to be prominent, possibly also living in insanitary surroundings, and working at

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various trades during her pregnancy in many cases, it is not to be wondered at that the strain of such an occurrence is too much for her mental equilibrium.

General paralysis has been regarded as a disease to which Jews are specially liable. Thus Beadles, in "The Insane Jew," *Journal of Mental Science*, October, 1900, states that he found 21 *per cent.* of all male Jew admissions were paralytics, as compared with 13 *per cent.* for pauper admissions in all county and borough asylums. I have, however, found a considerable decrease in the frequency of general paralysis in the Jew admissions. Indeed, there is a larger proportion in the non-Jew admissions; 31 Jew and 147 non-Jew paralytics were admitted, *i.e.*, 10·8 and 14·2 *per cent.* of the total admissions. In regard to causation, heredity, syphilis, and alcoholic excess were especially inquired into. The figures are 22·5, 22·5, and 16·1 *per cent.* for Jews, and for non-Jews 27·9, 15·6, and 32·7 *per cent.* respectively. Again, alcohol was usually associated with some other cause.

Regarding the symptomatology of the cases, speaking generally the alien insane Jew is a troublesome case. The proportion of Jews in the better wards in this asylum is small. Thus of the Jew cases at present on the female side of this asylum, 162 are in wards the patients of which are not regarded as fit to take meals in the dining-hall, and only 61 in such wards. The proportion in the other patients is 552 to 505.

This shows a marked difference; in the one case the numbers are nearly similar, in the other between twice and thrice as many.

The proportion of workers is small, 25 *per cent.*

The relatives and friends exhibit an extraordinary pertinacity in their endeavours to get the patients discharged. Consequently a large number are sent home as relieved. But as regards recovery, according to the statistics of the last five years, the outlook is considerably less favourable in the Jew. This is surprising, considering the high percentage of puerperal insanity. Thus only 22·2 *per cent.* of the male Jews admitted recovered, and 30·8 of the females, or excluding transfers 25·8 and 34·2 *per cent.* respectively. Since the end of 1907 a small number more have recovered, giving a slight increase. In 1906 the percentages of recoveries on admissions for all London Asylums were 31·22 and 36·06. In regard to the Jews, my

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figures are less favourable than those of Dr. Beadles, who gave 26·1 for males and 42 *per cent.* for females.

Referring next to bodily diseases, my general impression before investigating the subject was that the insane Jew was usually of low vitality, especially prone to tuberculosis, etc.

The statistics of this asylum, however, show that there is practically no difference in regard to phthisis and dysentery in the Jew and non-Jew; 19 *per cent.* of the tubercular cases were Jews, the same percentage as the average number of Jews resident bore to the non-Jews; 20 *per cent.* of the dysentery cases were Jews.

As regards epilepsy, there is practically the same proportion of cases amongst the Jews as amongst the non-Jews.

Summarising, the following facts may be stated:

(1) The insane London Jewish population is doubling itself every ten years.

(2) The average admission age of the Jew is six and a half years less than that of the non-Jew.

(3) Alcoholic excess is three times as frequently an assigned cause in the non-Jew as in the Jew.

(4) Insanity associated with child-bearing is relatively more than twice as common in Jewesses.

(5) General paralysis is rather less common.

(6) The foreign Jewish inmate is relatively more troublesome.

(7) The prognosis of the cases admitted is not so good in the Jew.

(1) A paper read at the Spring Meeting of the South-Eastern Division.

The Boarding Out of the Insane in Private Dwellings.

By R. Cunyngham Brown, M.D.

Writing in the *Nineteenth Century* of 1889, in an article entitled, "Lunatics as Patients, not Prisoners," Sir John Batty Tuke drew attention to the steadily increasing incubus of pauper lunacy, and raised the whole question of lunacy administration in England and Wales. In this paper he asked

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whether, commensurately with the increasing expenditure on the care and treatment of lunatics, even at that time enormous, there had been achieved an understanding of the hidden processes which underlie the insanities, and some means of arresting their occurrence, such as the ratepaying citizen might reasonably expect in return for the vast sums expended. These questions Sir John Tuke answered by a decided negative, and he adduced as his main reasons for this unsatisfactory state of affairs that, in the first place, asylums were merely *asylums* in the classic sense of the term, places of refuge, "model lodging-houses for the insane," not great hospitals for the cure of disease; and, in the second place, that the medical men who had the direction of these establishments were occupied with administrative and economic duties to the practical exclusion of scientific investigation and their proper function of healers of the sick. He even stated that it was quite an open question whether, in a certain number of cases, asylum treatment did not tend to aggravate the disease and render it chronic. That a certain number recovered in consequence of it, that a certain number recovered in spite of it, and that a certain number became demented because of it, were, he believed, each and all equally true statements. "A man merged in a crowd of irresponsible beings, all under the influence of a common discipline, and under the control of common keepers, must lose his individuality, and cannot possibly receive that anxious care and attention at the hands of one physician which is necessary from the nature of the case. What every case of insanity demands as the primary condition for recovery is, separate and individual treatment and consideration."

This necessity for the separate and individual treatment of every case of insanity offering a chance of recovery is recognised by all, but since his words were written its possibility has become more and more remote. Owing to a variety of causes, *viz.*, the accumulation of chronic and incurable dements through declining death- and discharge-rates, the marked tendency amongst the proletariat to relieve themselves of aged relatives who suffer from simple senile dementia, and an increasing stringency of certification, the proportion of rate-aided insane to general population, has risen since Sir John Tuke wrote his article from 1 in every 376 to just under 1 in every 305 at the end of 1906, and the total pauper insane have

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increased from 75,000 odd to 113,000 odd, or have almost doubled. What the proportion of the chronic and incurable elements of the asylum population of England and Wales may be it is impossible to tell, no collective statistics being available. The last annual report of the London County Council Asylums' Committee, however, shows that of the 16,730 patients remaining in their asylums—excluding the epileptic colony—at the end of 1906, 4,165, or 24·8 *per cent.*, were secondary or senile dements, 3,591 chronic maniacs, and 2,009 chronic melancholiacs, giving a total proportion of such cases of 59·5 *per cent.* These figures leave out of count entirely cases of congenital or infantile defect, organic dementia, general paralysis, and chronic delusional states, and though not admitting of general application, afford strong presumptive evidence that some three-quarters of the patients resident in county and borough asylums at any time are the subjects of chronic and wholly or partially irrecoverable conditions. The deplorable results of this state of affairs are well known. The overcrowding of asylums, largely due to the accumulation of chronic, incurable, senile, and frequently bed-ridden patients, upon a large proportion of whom the expensive equipment of a modern asylum is merely thrown away, not only prejudices the recovery of acute and curable cases and increases the death-rates from asylum dysentery and tuberculosis, but it does much to impede the scientific study of insanity.

One of the most urgent needs of to-day is the establishment of special mental hospitals, or special departments for the treatment of acute and curable cases. Such hospitals, however, are costly both in provision and up-keep, and it is evident that any alteration of our existing administration which would affect a considerable pecuniary saving without any loss of efficiency or care in treatment, such as is to be found in the boarding-out system, would thereby set free funds for the establishment of special mental hospitals or special departments of asylums. The fiscal policy of any department is of first importance, for financial economy is inseparable from proper administration, and the writer makes no apology for laying stress upon so weighty a consideration. His visits to various centres of family-care and an examination of their results have convinced him that the family-care system is the means of saving very considerable sums of money, is one which may be fearlessly adopted

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by England and Wales, and that if adopted it will be of benefit not only to the asylum and to the tax-paying public, but to the patients to whom it may be safely applied. In advocating its adoption by England and Wales the writer is well aware that the subject is one not free from controversy, that whilst there is a growing consensus of opinion that its adoption on a large scale would undoubtedly be the means of a considerable pecuniary benefit, there are many who regard the greater freedom which it would confer upon the patients with apprehension, and still more who consider its application in England and Wales as impracticable; that is, that we have not in England and Wales a suitable class of thrifty, intelligent, and trustworthy peasantry in sufficient numbers to make the experiment feasible, and further, that the treatment in private homes of insane persons would be vehemently opposed by the general public. This last objection is the only valid one, and, judging from the experience of other countries, one which would be very quickly overcome. Within recent years great numbers of patients have been placed in cottage homes outside asylums in the teeth of the fiercest local opposition, and not only has such opposition been quickly withdrawn, but patients have been applied for in greater numbers than the institutions deemed it advisable to supply. Nevertheless, it is true that the public mind during many years has become so thoroughly imbued with the idea that all cases of insanity are, at any rate potentially, dangerous, that there is a prevailing conviction that the asylum, and the asylum only, furnishes the sole means of the treatment and disposal of lunatics. The public, in committing their insane to these expensive institutions, whose luxury in many cases justifies one in asking with the late Dr. Fere, of the Bicêtre, whether the philanthropists who presided at their installation have not been preoccupied with the eventuality of their own sequestration rather than with the wellbeing of the "pauvres diables qui n'y peuvent rien comprendre," are possessed of a comfortable assurance that everything possible has been done. The great overcrowding of many of these institutions, however, their enormous death-rates, the fact that recovery-rates show no tendency to improve, but, on the other hand, an appreciable decline; that no sooner is one asylum completed than plans must be submitted for another, and that nothing is done to stem the influx of the indigent insane, are all forcing

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themselves into public recognition, and convincing many besides physicians of the truth of what Roger du Loiret said so far back as 1837, that "en introduisant au milieu d'une troupe d'aliénés incurables un malade atteint de folie récente en passagère, vous compremettaz la guérison, vous la rendez à jamais impossible, il n'y aura bientôt plus dans l'asile q'un incurable de plus."

The treatment of the insane in private dwellings, begun ages ago at Gheel, in Belgium, as a place of miraculous healing, entered its modern and rational phase only in the middle of the nineteenth century, when the control and administration of the colony at Gheel passed from the Commune into the hands of the State. A few years later, following the Scottish Lunacy Act of 1857, numbers of the insane were treated in private dwellings in Scotland, and are successfully so treated to-day. From Scotland the system passed to France, and from France to Russia; and from Belgium to Austria, Italy, Holland and Scandinavia. Perhaps its most remarkable development, however, is to be found in Germany to-day, for, whereas in that country there were in 1882 but two small family-colonies for the insane with scarcely more than fifty patients, ten years later there were thirty-two colonies with 1200 patients, and at the end of 1906 there were fifty-one separate colonies with 2400 patients so treated. These different countries adopted the system at the outset for diverse reasons—in Scotland for want of asylum accommodation, in France to relieve their asylums, in Holland entirely as the extension of the policy of the open door, and in Germany from a combination of these reasons; but wherever and however initiated it has been invariably found to be not only a relief to congested asylums, but in itself a valuable therapeutic aid.

As will appear from the short descriptions of the several centres of the family-care treatment of the insane visited by the writer, as a special commissioner of the *British Medical Journal*, given hereunder, the following modes of disposal of the patients, or combinations of these forms, have been adopted.

Form A.—The patients may be placed within the homes and under the care of married asylum or ex-asylum attendants in the close neighbourhood of the main asylums, and are visited by the asylum officials. Veldwijk and Uchtspringe, Germany.

Form B.—The patients may be placed with guardians, not asylum

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officials, in the close neighbourhood of the asylum. Visited by medical officers under the direction of the medical superintendent of the asylum, as at Gheel, Lierneux, and Rockwinkel. (Also Italy.)

Form C.—The patients may be placed within the homes of the ordinary inhabitants of some district, remote from the main asylum, generally a rural agricultural district, having, in the centre of the colony thus formed, an asylum for the colony solely, and having smaller sub-colonies of groups in the surrounding region, each with its own small hospital or lazarette. The patients are visited by the medical officers of the colonial asylum under the direction of the medical superintendent of the colony, the whole forming an autonomous colony as at Ainay-le-Chateau, Dun-sur-Auron, and Levet in France and Gardelegen and Jerichow in Germany.

Form D.—The patients may be scattered over villages and rural districts throughout the country, disconnected from any asylum or institution, visited not by asylum officials, but by local officials (parochial medical officers and inspectors of the poor) yet visited by, and under direct control of, the Lunacy Commissioners, as in Scotland.

Each of these systems is found to be good in that it permits to suitable patients a degree of liberty, a diversity of natural interests and healthy occupation, and an environment to which they are by nature adapted, impossible within an asylum, combined with adequate inspection and control. The choice of a system has been determined not so much by the intrinsic merits of any one system as by the nature of the country, the character of the inhabitants, and the form of administration obtaining at the time, that system being chosen which most easily fitted the existing machinery of care and control.

Form A. Holland.

The system in vogue in Holland, at the asylums of Veldwijk, Bloemendal, and Dennenoord, is that in which the patients are boarded out in the immediate vicinity of the asylum with ex-asylum attendants. For many years there had been a considerable contingent of Dutch patients at the colony in Gheel, but it was not till 1884 that this system was inaugurated in Holland. At first it was only permitted to board out cases with asylum attendants, but later this restriction was removed, and to-day there are numbers of patients living with the ordinary inhabitants. The work was initiated by the Christian Association for the Treatment of Insanity and Nervous Diseases. This Association is not a State institution, but is supported by voluntary contributions and has the three asylums mentioned above, with a total population of over 1,500 patients. These asylums were established for paying patients, but patients of all classes are received, indigent patients being accepted from the State asylums at fixed rates. The results have been so favourable that the system has been applied since 1889 at the State asylum of Medemblik, since 1900 at Grave, since 1892 at Meerenberg, and at many other asylums. The law stipulates that in no case must more than 10 *per cent.* of the asylum population be disposed of in this way, and that each patient must have been at least half a year

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resident in an asylum prior to being boarded out. In Holland, unlike most other countries, this method has not been adopted for pecuniary reasons, or on account of over-crowding of asylums, but purely as a therapeutic means of approved value. The writer was able only to visit Veldwijk, but as this is the oldest family-colony in Holland and the model on which the others have been planned, it may be accepted as typical of the whole. The patients, to the number of ninety-three, were of three classes, private patients of the first and second classes, and state-aided or third class patients. The forms of disorder were varied, being of the imbecile, demented, and quietly melancholic and delusional states, and the patients for the most part lived in the homes of married asylum attendants outside, but not distant from the asylum bounds. The houses of the private patients need not be considered here in this connection, as they differ little from the dwellings of the upper middle classes in this country. The houses of the third class are detached or semi-detached cottages of excellent construction, each with its own garden, and in perfect order. The interiors were comfortably furnished and scrupulously neat and clean. The patients of the third class, numbering, as a rule, two in each house, must be of the same sex. Each patient possesses a bedroom, whose cubic capacity, light space, and number and quality of furnishings must conform to the regulations laid down by the asylum authorities. The clothing of the patients is supplied by the institution, but does not differ from that of the neighbourhood, and is comfortable and sufficient. The patients were found to be well nourished and contented, mingling well with the families with whom they were placed, and obviously well cared for.

Inspection, etc.

Each patient is visited at least once a week by the medical director or one of the three assistant medical officers; also at frequent intervals by a lay overseer or *beamter*, and twice yearly by the governmental inspector of lunatics and lunatic asylums. The house of the guardian, or *huisvader*, must also at all times be open to the inspection of the officer of justice or his subordinates. Each patient also, as at other colonies, has a book containing an inventory of the articles of clothing, etc., supplied to him, extracts from the law of April 27th, 1884, setting forth the conditions which must be fulfilled by the guardian, and spaces for observations as to the patient's bodily and mental state, and for the signatures of the officials at each visit. The patients come also, once weekly, to the asylum for bathing and examination by the medical director, or to lay any complaints or requests before him.

Cost.

The connection between the asylum and the colony is of so intimate a kind that the published financial statements do not contain figures from which any comparison can be drawn between the asylum and the colony in this respect. The director, Dr. Van Dale, however, stated that the cost is slightly less in the colony than in the institution.

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This same system (Form A) has been adopted at many asylums in Germany, of which the small colony of Wilhelmseich, near Uchtspringe, may be taken as a typical example.

Uchtspringe.

This, the sister asylum to the agricolous colony and asylum of Alt-Scherbitz, was opened in 1894. Shortly after its opening the medical director, Dr. Alt, erected in the neighbourhood of the asylum seven double houses, for the occupancy of a married attendant in each, his family, and three patients. The attendants pay fifty marks (£2 9*s.*) a year in rent, and are paid at the rate of 60 *pf.* (8*d.*) a day per patient by the institution, which also furnishes the patients' rooms and provides their clothing. The three patients in each house are, as a rule, composed of one adult able-bodied worker, one unable to work, and an imbecile boy. The patients are visited at regular and frequent intervals by one of the medical officers of the asylum, and go once a month to the asylum for bathing and examination. The homes are clean and comfortable, the patients cheerful and well behaved, and the food wholesome and abundant.

Cost.

The total cost of maintenance of these patients amounts to one mark a day as contrasted with the 1 *m.* 70 *pf.* of the asylum proper.

This system has not been further developed because Dr. Alt feared that the interest in patients placed in families close to the asylum might be submerged in that of so large an institution, and because it had already served its founder's aim by demonstrating the value of this form of provision, and of enlisting public sympathy in this work. For these reasons the next development was the formation (in 1898) of the autonomous colony at Gardelegen, in which the patients are boarded out in the homes of the ordinary inhabitants, and later (in 1900) at Jerichow (described later).

At this and at all the other German colonies each patient has a book containing information relative to the patients, and a copy of the rules for the guidance of the guardian.

This system of boarding out under attendant guardians in the close vicinage of the asylum commends itself as a safe and simple way of initiating family care in any country, of testing the fitness of a patient for family life, and of accustoming the people of the neighbourhood to this mode of provision. It is, in fact, only a slight extension of the village asylums at Aberdeen and Bangour (Edinburgh). It is, however, a more institutional form of government than is necessary or even advisable for large numbers of the insane.

Form B. Gheel.

In which the patients are placed with the ordinary inhabitants in the neighbourhood of the asylum, and are visited by the officers of the asylum.

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The historical example of this mode is furnished by Gheel, but it is also practised in the south of Belgium at Lierneux, and at Rockwinkel, near Bremen, North Germany. The family colonies of Gheel and Lierneux are identical in plan and mode of administration. There is a central asylum capable of holding seventy inmates close to the village, and surrounded by wide agricultural lands, populated by small farmers, market gardeners, and the like. At the writer's visit Gheel had 1,834 patients, of whom 1,014 were men, and 820 women. The largest part of these were either congenital idiots or imbeciles (35 *per cent.*), or cases of chronic, secondary, organic, or senile dementia (37·5 *per cent.*). About 10 *per cent.* were cases of epilepsy or hysteria, and a further 7½ *per cent.* were melancholic or hypochondriacal. The patients are of two classes, pauper patients and paying patients, usually about one tenth of the whole number. Only two patients may be received in any one home, and each patient must, according to the regulations of the colony, have a bedroom to himself. The guardians are carefully selected, the dwelling must conform to hygienic standards fixed by the authorities, and the amount and quality of food are defined by law. The government of the colony is placed nominally under the authority of a *Comite Permanent*, composed of the burgomaster, one alderman of the Commune, and three other members nominated by the minister of justice, but for all practical purposes the medical director is the responsible head. The colony is divided into four sections, for each of which there is a sectional medical officer who acts under the medical director. Each sectional medical officer is required to visit and report upon each chronic incurable patient in his district at least once a month, and each patient who seems to offer a chance of recovery, once a week. There are also lay inspectors, *gardes de section*, numbering seven, who visit each case twice monthly, and report on their condition, management, clothing, dwelling, etc. The medical director visits each case also once a year. There are four bathing establishments, besides that at the infirmary, for the use of the pauper patients, and another has been erected for private patients.

Cost.

The patients are divided into three classes, the *propres*, the *semi-gâteux*, and the *gâteux*, and their guardians or *nourriciers* are paid according to the class of patient—85 centimes a day for the *propres*, 99 for the *semi-gâteux*, and 125 for the *gâteux*. From these sums the guardians refund to the treasury of the colony about 20 centimes. From this source and the payments of the *pensionnaires* or paying patients, the colony receives a yearly income of over 180,000 francs. Apart altogether from the cost of erecting asylums or interest on outlay, this system is found to be more economical than that of the ordinary closed asylum. The writer visited every part of the colony and saw several hundreds of the patients, inspected their homes, examined their clothing and bedding and conversed whenever possible with both patient and guardian. He found the patients pleased with their surroundings, and their guardians capable and intelligent. The patients enjoy a degree of liberty unknown in our asylums, and are of great

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advantage by their labour, and the aid in money, to their guardians. Formerly a barren heath, this portion of Belgium has been converted into a fruitful garden.

Lierneux.

The formation of this colony is instructive in that it is not, like Gheel, of ancient foundation, but was formed in 1885 as a means of relief to the overcrowded asylums of South Belgium, in the face of considerable local resistance. The people of the neighbourhood, however, finding that the patients were harmless and of profit to their guardians, soon withdrew all opposition, and the demand for patients became greater than the number the authorities deemed advisable to supply. There has been a steady yearly increase in the number of patients since the foundation, and on January 1st of this year the patients numbered 537. As at Gheel, there is a central infirmary, close to the village in which and in the surrounding country the patients are boarded out with the people of the district. The mode of government and the machinery of supervision are identical with those at Gheel, and require no further mention.

Cost.

The following table gives the comparative figures of the daily cost per patient in four neighbouring asylums and the colony at Lierneux.

	Francs.
A l'hôpital des Anglais à Liège	2·77
A l'hôpital de Baviere à Liège	2·79
A la sanatorium de Borgonmont	3·50
A l'hôpital de Verviers	1·92
A la Colonie de Lierneux	1·50

Form C.

This form of family colony is represented by those of Dun-sur-Auron, Levet, and Ainay-le-Chateau for the Seine Department, and in Germany at Gardelegen and Jerichow and other places. They are all alike in that the colonies are remote and entirely distinct from the asylum from whence the patients are discharged. The patients are discharged permanently from the asylum (in the case of France from the asylums of the Seine Department at Paris, and in the case of Gardelegen and Jerichow from the state asylums of the kingdom of Saxony) to the colonies which have each their own directorate, staff, and budget.

The French Family-colonies.

Founded in 1892, the colony of Dun-sur-Auron was instituted explicitly for the disencumbrance of the asylums of the Seine Department, and the cases selected for transfer were, conformably to the ministerial instruction of M. Loubet, "aged people certified as insane, but in whom the condition of dementia, incurable but tranquil, and the senile enfeeblement of

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their faculties, hardly justified their detention in an asylum." This class of patient still preponderates in these colonies, but as experience gradually disclosed the fact that the subjects of many other forms of mental affection did well under family care, Dr. Marie, the founder and first medical director of this colony, obtained a progressive extension of the categories of cases likely to benefit by this form of assistance, and to-day there are also many cases of delusional insanity, chronic mania and melancholia, and adolescent dementia. The colony at Dun-sur-Auron gave such good results that the numbers steadily increased; the dependent colony at Levet was opened in 1896, the colony at Ainay-le-Chateau was opened shortly after, and in 1900 converted into an independent colony, and numerous small villages in the neighbourhood were made the foci of sub-colonies, each with its little asylum, lazarette, or bathing establishment. At the time of the writer's visit in 1905 there were 660 patients at Dun, 86 at Levet, some 200 odd at the sub-colonies at Bussy, Osmery, and Ourouer, 438 at Ainay-le-Chateau, and arrangements were being made for future settlements at many other villages In the neighbourhood.

At Dun and Ainay there are asylums each in charge of a medical director, who is assisted at Dun by a *medecin-adjoint*, and another at the colony at Levet. Most of the sub-colonies are connected by telephone with the asylums at Dun or Ainay, and each sub-colony is in charge of a lay overseer or *surveillante des placements*.

The patients are visited at regular and frequent intervals, and come regularly to the asylum or the hospital of their sub-colony for bathing and examination. The asylum is, further, the social centre of the colony, where the patients meet in the *salle-de-reunion* for games and conversation. During a house-to-house visitation to most of the 600 patients in the village of Dun-sur-Auron, and also the hamlets of Bussy and Osmery, many patients were seen in the streets, unmistakably demented, but attracting no attention whatever from the ordinary inhabitants. They were found occasionally at work, but as the majority are of advanced years they were for the most part employing themselves in desultory fashion, or at meals. The interiors of the houses were certainly above the ordinary dwellings of the place in point of cleanliness and order, and the patient's clothing and bedding in excellent condition. Only two patients, as a rule, are permitted in one house, as it has been found there, as elsewhere, that when more than two are allowed, the proper blending of the patients with the life of the family is impeded. The rules stipulate that the food of the patients must be the same as that of the family, and that at least three and a half kilogrammes of bread and one litre of wine must be supplied to each patient per week, and four days a week fresh meat, independently of vegetables and other foods. The patients appeared thoroughly contented, and though, being for the most part Parisians, many desired to return to Paris, not one wished, here or elsewhere, to exchange the life of the colony for that of the asylum. At Ainay-le-Chateau and the sub-colony of St. Bonney the same conditions were met with, and the same favourable impression received. The only points that seem open to question are, firstly, whether it is advisable to transfer aged people, habituated town dwellers, to a distant colony where they are out of reach of their friends or relatives, amongst a

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people who, however well disposed, have other ways than theirs; and secondly, whether some binding restriction should not be inserted in the rules of the colony as regards the supplying of alcohol to the patients.

Cost.

The sum paid to the *nourricier* for each patient is 1 *fr.* 10 *c.* per day. The personal clothing is supplied from the institution, and this, added to the expenses of the infirmaries, medical and other service, etc., raises the daily cost to 1 *fr.* 40 *c.* in the case of Ainay and to 1 *fr.* 60 *c.* in the case of Dun, per patient. The average cost per patient per day in the asylums of the Seine Department is 2 *fr.* 75 *c.* If to this saving be added the avoidance of erection of fresh structures the resulting economy is very considerable. Practically the same system (Form C) is in operation at many of the family-colonies. The two the writer visited were Gardelegen and Jerichow, and as the conditions obtaining amongst the patients are the same at both places, Jerichow only need be described.

JERICHOW.

Jerichow is a small country town between Schönhausen and Genthin, of about 2,000 inhabitants, lying in the middle of wide and somewhat sparsely populated agricultural lands. On account of its remoteness from any large town, its dry and bracing climate, and the kindly and honest character of its farming population, it was well fitted for the formation of such a colony. A small provisional asylum was opened in Jerichow in 1900, and in that year forty-five patients were placed with families in the district. An asylum capable of holding 200 inmates was completed in 1904. The asylum is built in separate blocks, each capable of accommodating from forty to sixty patients, and stands in fairly extensive grounds. It is complete in every way, has its chapel, administrative bureau, laundry and other offices, but is much simpler and cheaper in construction than the ordinary asylum, costing with the internal furnishing 3,000 marks (between £146–£147) a bed. The whole has been built according to the plans of Dr. Alt, and resembles the new village asylum at Kingseat, near Aberdeen, on a small scale, and contained at the writer's visit 180 patients. Some of these were permanent inmates, but the great majority were in the asylum either as a temporary halting-place for observation on their way to the outside colony or for treatment during transitory excitement or intercurrent somatic illnesses.

The Homes.

The patients are scattered over a circular area of about twenty kilometres (twelve and a half miles) diameter. The houses are the small, comfortable cottages of the neighbourhood. The patients' bedrooms are as a rule superior to those of the family proper, owing to the restrictions regarding air-space, etc., imposed by the directorate.

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The Patients.

The patients are entirely of the third or state-aided class, and are discharged to Jerichow from the asylums of Uchtspringe, Alt-Scherbitz, and Nietleben. No less than 45 *per cent.* are idiot or imbecile, mostly young or adolescent imbeciles. About 5 *per cent.* are paralytic and epileptic cases, and the remainder are composed of the subjects of other forms of mental alienation. The selection of cases for family life is made with the greatest care, only such being chosen as are able to enter into the pursuits and interests of the family.

Inspection.

The whole colony is under the direction of a medical superintendent assisted by two medical officers. Each patient is visited at least once a week by one of the medical officers and twice a week by one of the overseers, of whom, including the asylum attendants, there are thirty. The care and supervision are extraordinarily thorough and have been followed by the happiest results.

Cost.

The average cost per patient per day, inclusive of the sum paid to the guardian, the cost of supervision, administration, and the expenditure of the asylum, works out at 1 *m.* 30 *pf.*, which is a saving of 40 *pf.* per patient per day on the ordinary asylum of the country. The saving effected by this system of boarding out of the 563 patients in Saxony was for 1904, 287,000 marks, not counting the saving on the avoidance of new erections which would otherwise have been required. But it has done much more than this. It has relieved the asylum of 14 *per cent.* of their pauper population, it has been of material benefit to their guardians, and it has been of great benefit to the patients themselves.

FORM D. SCOTLAND.

This form, in which the patients are boarded out with the ordinary inhabitants of the country and are not in touch with any asylum, being visited by parochial medical officers and lay inspectors, has on the face of it less to recommend it than any of the other systems mentioned. Nevertheless it has been in practice in Scotland for over forty-six years with thoroughly satisfactory results, and is to-day applied to 19 *per cent.* of her total insane poor. Prior to the enactment of the Lunacy Act (Scotland) of 1857 the supervision and administration of the law regarding both lunatic and ordinary poor were committed to a "Board of Supervision for Relief of the Poor," now (since 1894) known as the Local Government Board for Scotland. In 1857, however, a Lunacy Act gave the control of all matters relating to the insane poor and the supervision of all establishments for lunatics in Scotland—with the exception of insane prisoners and those maintained in private dwellings from private sources—to a General Board of Commissioners in Lunacy

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created by that Act. Under this law it became the duty of the Board of Lunacy to see that every insane person in receipt of parochial relief received adequate care and treatment. The immediate result of the application of this law was the recognition of the necessity for much increased accommodation, asylum or other, for the indigent insane. Some were placed in poor-houses, and the rest had to be kept in the homes of relatives or boarded out with strangers. The experience gained during this period, fortified by a study of the results obtained in other countries, particularly those of Gheel, convinced the Board that under efficiently organised supervision the boarding of a considerable number of patients in private dwellings ought to form an integral part of any complete system of providing for the insane. All matters, then, in Scotland relating to the insane are in the hands of the General Board of Lunacy. Scotland is divided into 874 parishes, in each of which the administration of official assistance is entrusted to a popularly elected Parish Council which is under the control of the Local Government Board, and, *in respect to the insane, under the control of the General Board of Lunacy.*

Scotland is also divided into lunacy districts, to each of which there is a district lunacy board, which is responsible solely for insane persons in asylums, having no responsibility whatever in regard to the insane, pauper, or private, who are not in asylums. Both the parish councils and the district lunacy boards, however, in regard to the insane, are under the control of the General Board of Lunacy. Each parish council has as its principal executive officer a paid official called the inspector of poor, a post resembling, though of more importance than, that of relieving officer in England. This official, or his assistants, investigate all applications for relief, visit periodically all persons, including the boarded-out insane, who are in receipt of parochial assistance, and consider the applications of all who wish to become the guardians of boarded-out cases. These guardians are selected with the greatest care after personal investigation, and when a patient is placed in a private dwelling the condition of the patient, the character of the guardian, the persons forming the household, and the accommodation offered by the home must be reported by the inspector to the General Board of Lunacy, who in all doubtful cases withhold their sanction until they have been satisfied by the inquiries of their own officers as to the fitness of the arrangements. Each pauper lunatic under family care is visited and reported upon to the Board by a deputy commissioner at least once, but generally twice a year. The inspector of poor must visit and report upon each case in his district at least once a year, but as there are continually fresh applications being made for guardianship, involving a personal investigation of the home of the applicant, the cases in the neighbourhood are seen at the same time, and the total inspections made are much in excess of the statutory requirements. The parochial medical officer must also visit each case once a quarter, and also as occasion may require.

The Patients.

On January 1st, 1907, there were 14,746 insane persons in receipt of relief in Scotland. Of these 972, or 6·59 *per cent.*, were treated at

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home in their own dwellings, and 1802, or 12·22 *per cent.*, were boarded out in private dwellings with strangers. Thus 19 *per cent.* were under family care, and these, whether living with relatives or strangers, are subject in every case to the same official inspection and control. An instructive fact regarding the relative numbers boarded out with strangers and those treated in their own homes is the progressive increase of the former class at the expense of the latter. Experience has shown, both here and abroad, that the treatment of patients in their own homes is much less satisfactory than when under the care of strangers, as naturally many parents do not possess the necessary qualifications for guardianship, the ties of consanguinity also being often manifested in the parents or other members of the family by feeble-mindedness, falling short of certifiability, or defects in moral character. The treatment of patients in their own homes is, in fact, only permitted in those cases where, if it were not allowed, the case would escape official control by the parents refusing parochial assistance. Another equally important change relates to the channel by which these cases come on the official roll. Formerly many were left in private dwellings on admission to public relief, but during the last twenty years this number has undergone a steady diminution, and now over two-thirds are composed of cases discharged from asylums where they have undergone varying periods of observation and treatment. The patients are not in Scotland—except in a few instances as at Markinch, Kennoway, Balfron, and Lanark—collected into considerable groups, but are dispersed over the whole country. This dispersion was advised by the Commissioners lest adverse public feeling should arise in the neighbourhood. No such feeling, however, has arisen in any of the villages where such concentration obtains, except in the case of a few individuals who have in no instance been supported by the public sentiment of the locality. On the contrary the aggregation of patients has been appreciated as a great benefit to the people of the villages in which it has been tried, particularly, as in Fifeshire, where these villages had been the seat of a prosperous hand-loom weaving which had ceased on the introduction of power-looms, and which has thus been saved from extinction. The patients are boarded out to the number of two or three in each house. Only rarely are these numbers exceeded, more than two never being permitted except as the result of a special recommendation by the Deputy-Commissioner. The cases, which are carefully selected, are preponderatingly imbecile or demented. Imbecile women of child-bearing age are not boarded out, and are only permitted under family care, when, if this were not allowed, the case would escape official control. With regard to accommodation, diet, and clothing, the Scottish system differs from that of the continental colonies in the greater freedom which is permitted to the guardians in these particulars, restrictions not being imposed which might result in a separation of the patients from the other inmates of the house. The patients, however, must always be of the same sex, and separate beds must be provided for each patient, though in the case of women two patients may be allowed to sleep together if they both desire to do so. No rule is laid down as to cubic air-space, etc., and with all domestic matters it is, to quote Sir Arthur Mitchell, "regarded as sufficient if a lunatic's con-

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dition shows a reasonable approach as regards substantial comforts to that of the poor but respectable portion of the general community."

Cost.

There is no fixed rate of board in Scotland, and the sums paid to the guardians vary from the 7*s.* per week of large urban and burghal parishes to 3*s.* 9½*d.* in the case of Shetland. The amount of attention and care required and the accommodation offered are taken into consideration in fixing the sums paid to the guardians. The clothing, of which each patient must have two complete outfits, and, of course, medical necessaries and comforts, are also supplied. Altogether the average weekly cost per patient is about 8*s.* 5*d.*, as contrasted with the 9*s.* 11*d.* of the establishments. The asylum rates, however, in Scotland do not include the cost of land and buildings, which amounts to 6*s.* 10¾*d.* per patient per week. The cost of maintenance in private dwellings is thus just one-half of that in asylums, resulting in an economy to Scotland of between £40,000 and £50,000 per annum. In 1904 the writer visited, through the kindness of the Commissioners, large numbers of these cases in Scotland, and was very much struck by the good physical state of the patients. In only two cases out of several hundreds were they in poor bodily condition. They were found working cheerfully in the fields and strawberry farms, engaged in various domestic offices or sitting quietly at home. The accommodation, though varying within wide limits, was found everywhere good, and their guardians were, as a rule, intelligent and kindly folk clearly interested in their charge. During 1903 only 1·05 *per cent.* of the cases boarded out had to be removed on account of bad or indifferent guardianship, and in nearly every case where lax guardianship occurs, it is found to be when the patient is under the care of parents or other relatives. The complete separation of asylum from boarded-out insane, the infrequent visitation of the patients in family-care, their wide dispersal over the country, and their local medical supervision by parochial and not asylum officers, and the further fact that about one-third of the whole number of patients are resident with relatives, who, by experience, have been proved to make the worst guardians of the insane—all sharply mark off the Scottish system from any other. Notwithstanding these apparent, and in the writer's opinion actual, drawbacks, the Scottish system has been in satisfactory operation for nearly half a century, and is applied to-day to one-nineteenth of Scotland's total pauper insane, the numbers so treated being, on January 1st of this year, 2780.

In reviewing the whole family-care systems as outlined above there are certain points deserving of note. In the first place the patients are happier than in the closed asylums. Out of the many hundreds of patients with whom the writer conversed on the Continent and in Scotland in not one case did the patient wish to re-enter the closed asylums. In many cases, and particularly in French colonies, the patients, for the most

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part Parisians, wished to return to their own city, but never to the closed asylum. Also, at times, the patients wished for a change of guardian, and this has been, where possible, acceded to, as it is often only by a tentative experiment that the most suitable guardian for any case can be found. A second striking feature of the patients visited, with the exception of the French colonies, in which a considerable proportion were aged people, was their good physical condition. This is borne out by a consideration of the death-rates of the boarded-out insane. Notwithstanding that the classes selected for boarding-out—imbeciles, dements, and chronic maniacs—have usually a high death-rate and are notoriously prone to tuberculous disease, and although the French colonies are composed preponderatingly of senile cases, the following tabular statement shows that the death-rate in the boarded-out patients is just about one-half that of the closed asylums.

Death-rates in 1906 *in Boarded-out Insane and in Family Colonies.*

	Numbers.	Deaths.	Percentage
Scotland	2,774	113	4·07
Gheel	1,844	103	5·05
Lierneux	486	20	4·11
Dun and Ainay	1,263	88	6·96

In the above statement the writer has not included the returns of the Dutch colonies, because, owing to the intimate connection of the asylum and the colony, no separate statistics are available. It may be stated, however, with regard to the family-colonies of Saxony, that during the three years ending December 31st, 1907, there have been only fourteen deaths with an average yearly population of 448. Another feature is the improved emotional tone of the patients. The patients are more content than in the asylums; the necessary restrictions of an asylum, which at times undoubtedly re-enforce delusions of persecution, are not felt, and the patient ceases to kick against the pricks, and Professor Marie, who has frequently ventured to discharge to the colony cases of melancholia with suicidal tendencies, has affirmed that under domestic influences such cases, as a rule, markedly improve, patients who had been actively suicidal in the asylum ceasing to make any attempt on their own lives. Doubtless it is in consequence of this improved emotional state that recoveries do occur in a class in

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which recovery was not to be expected, in small though constant proportions.

The recoveries naturally vary with the classes boarded out, and range from 1 *per cent.* of the total annual number of patients in Scotland to 1·15 *per cent.* of the total number of patients, or 10·21 *per cent.* of the admissions in the case of Gheel.

The dangers which loom so prominently in the minds of many are those of harsh or exigent guardianship, escapes, suicide, casualties and assaults, and pregnancies in the female patients. All of these are possible under any form of administration. Taking them seriatim, the danger of harsh coercive measures by a guardian, in whose interest it is to make a patient work well, has been found in practice to be a negligible quantity. The satisfaction of the patients with their surroundings is sufficient to dispel the fear, and given careful selection of the guardians and efficient inspection and control this danger is as little likely to occur as in closed asylums. Escapes from the Continential family-colonies are exceedingly infrequent occurrences, partly from their careful supervision but also because of the manifest contentment of the patients with their lot. In 1906, from the French and Belgian colonies there were in all twelve escapes, and in the three years ending December 31st, 1907, there were nine escapes from the Saxon colonies, giving an annual number of nine escapes with an annual number of patients of 4,079. As to fatalities and suicides, there have been in the Belgian colonies, during the years 1904–5–6, with an annual population of over 2,300 patients, three suicides and two accidental deaths; in the Saxon colonies one suicide and two accidental deaths; and in Scotland neither suicide nor fatal accident. In Scotland the non-fatal casualties amount to almost one-fifth of those of the asylums, this relative infrequency ensuing naturally upon the carefully selected class boarded out. Pregnancies have occurred, though very rarely, at Gheel, and at Lierneux the first and only pregnancy in the history of the colony was recorded last year. In Scotland these unfortunate events have been less infrequent than elsewhere, there having been twenty-five in the half-century during which family-care has existed in that country. Nearly every one of these cases, however, has been among the patients treated in their own families, and who, had this arrangement not been consented to, would have refused

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parochial assistance, and would thus have escaped official recognition and inspection altogether. The risk of pregnancy can, obviously, be most easily avoided by boarding out no women of child-bearing age. On close inspection the risks and dangers of boarding out suitable cases in private dwellings prove to be, all of them, avoidable, and its advantages so great that they far outweigh any of the considerations which have been urged against its adoption in England and Wales. It is a system which is applicable on a large scale only to a certain proportion of asylum patients, that is, to inoffensive patients who are the subjects of chronic mental disorders for which no special treatment is required, and also to patients convalescing from acute psychoses. To many of these latter the family-care system offers the most satisfactory means of testing their fitness for return to society, and if it be true that the special mental hospital is the only proper entrance to the asylum, it is equally true that the family-care system provides the only proper exit.

The Teaching of Psychiatry. By D. G. THOMSON, M.D., Medical Superintendent Norfolk County Asylum, Norwich.

I WISH that the advocacy of what I believe will be one of the most important developments in the history of our specialty had devolved on someone occupying a higher position in our branch of medicine, someone whose opinions and views would carry more weight and influence than mine can aspire to; at the same time thirty years' experience as a medical officer in London and provincial asylums, public and private, perhaps entitles me to open a discussion on a subject on which I have spent some thought, and I am proud of the privilege of doing so before this Association to-day.

I think we are all alive to the fact that new ideals and possibilities are arising in our work among the insane. Half a century or more has converted the ghastly chaos of the madhouse into the comfort, luxury even, of our present-day asylums, and everlasting honour to the men who worked this beneficent change. But we can no longer afford to rest on our

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oars and complacently gloat over the existing high-grade administration of our asylums, and we who profess to be specialists and leaders of opinion on matters connected with the insane should now be considering if the time has not come to take fresh stock of our position, to determine if our present methods of dealing with the insane and of teaching and training those who come after us are archaic or not.

I am afraid that some of us are satisfied to be efficient administrators of institutions, to comply with the requirements of the law applicable to the insane, to satisfy our committees of visitors, the Lunacy Commissioners and other public bodies, and all this—no light task in itself—to the peril of our proficiency as physicians. I have no intention at present of referring to the vexed question as to how far administrative and medical skill can co-exist in the same individual, or be expected from him, but I do postulate that in the treatment of recent or acute cases—and they are the only ones that count—it is the highest medical skill that is the essential factor of the two.

If any stimulus were required to bestir us and make us reflect on these matters, surely it is coming from many directions, notably in the recent work of Mott, Lewis Bruce, Orr, Rows, Ford-Robertson, and others, and so recently as Valentine's day, 1908, when Maudsley made his memorable and munificent offer to the London County Council of £30,000 "for the establishment in London of a fitly equipped hospital for mental diseases."

It may be that our ultimate high function is the prevention of disease, and I am afraid that the pessimism which is apt to be the outcome of experience warrants a fear that therein lies our only chance of being of much use to the race in the matter of insanity, still, until we have succeeded in preventing insanity we will have to be contented with our less ideal function of treating insanity as it arises.

I think I cannot give better introduction to the subject of my paper than by taking the three main propositions given in Dr. Maudsley's letter to the Chairman of the London County Council.

"As a physician," he says, "who has been engaged in the study and treatment of mental diseases for more than half a century I have been deeply impressed with the necessity of a hospital the main objects of which would be:

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"(1) The early treatment of acute cases of mental disorder, etc.

"(2) To promote exact scientific research into the causes and pathology of insanity, etc.

"(3) To serve as an educational institution in which medical students might obtain good clinical instruction."

It is the last or third proposition which will serve as text for my remarks to-day, for after all it is the main proposition. Is not the medical student of to-day the physician and investigator, referred to in the first and second propositions, of to-morrow? And we will be beginning at the wrong end, so to speak, unless we closely examine all that the third proposition implies.

I think no one conversant with the existing state of affairs will contend that the present mode of instruction of medical students in psychiatry can do more than give them a smattering of knowledge; indeed, except for those taking University degrees even this modicum is not imparted. We all know the kind of lectures given and the clinical exhibits, admirable in their way, but which are sown on unprepared ground and which are looked upon by the average medical student as of much the same entertaining and bizarre character as the lectures on poison murderers, Madeleine Smith, Pritchard and Co., in medical jurisprudence([1]). Medical art is, however, long and medical student life short, and after all, but a smattering or merely the elements of any of the subjects taught in the medical curriculum is attainable, so I must not labour this point. I am inclined to believe that Dr. Maudsley rather aims, in his third proposition, not so much at the education in psychiatry of the ordinary medical student as of the post-graduate medical student who desires to take up mental diseases as a specialty or as an adjunct to the practice of pure medicine or neurology. Is it not a striking, nay, even an extraordinary, fact that mental diseases among all specialities is the only one where no post-graduate training and special study are demanded? If public health work is pursued one has to study specially the subjects therein included, and obtain a diploma in public health; in military and naval surgery special post-graduate study is demanded, and after study in special military and naval hospitals a searching examination is undergone before obtaining the diploma, or in this case commission as it is called.

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Familiarity and custom blind us to anomalies, so I would ask you to look at the matter afresh and see if our present method of training the alienist is satisfactory. The majority of us began our careers as assistant medical officers of asylums, without having had the opportunity of attending a post-graduate course of instruction in mental diseases.

It may be answered that the actual service in the asylum is the post-graduate course, and that the medical superintendent is the instructor of the newly fledged doctor who is the assistant medical officer, but we know that beyond imparting a measure of his clinical and administrative experience to his juniors the medical superintendent is in many instances unqualified, even if he had the time, or were it his duty to do so, to give or direct the necessary training and teaching.

The wonder is that under existing circumstances so much good work has been done in the past, for let us picture to ourselves asylums dotted in more or less isolated positions all over the country, the laboratories where any appreciable investigation or original research is carried out numbering some 5 *per cent.* of those asylums, the isolation and separation of those asylums and laboratories from centres of medical thought and intercourse, what wonder that there is this feeling of dissatisfaction, of unrest both in lay and medical circles, and a clamouring for a more scientific method of dealing with the ever-increasing burden of lunacy, and that especially at its source.

So much for destructive criticism of present arrangements; let us see shortly what are the various remedial changes which have from time to time been proposed.

They may be classed under three heads, and virtually are included in Dr. Maudsley's three propositions:

(1) The need for the provision of adequate early treatment.

(2) The promotion of more general and systematised investigation of insanity as a disease.

(3) The need of good clinical instruction for those who desire to study mental disease.

As regards No. 1 I need say no more than that Dr. Clouston, Dr. Carswell and others have strongly advocated the provision of mental wards in general hospitals, the London County Council, Dr. Maudsley and others the establishment of "receiving houses" and special mental hospitals for early acute cases of mental disorder, in the great cities at all events.

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Now, I contend No. 1 is of little value and would be a gross waste of money if propositions Nos. 2 and 3 are not considered of prime importance; they are practically complementary of one another and may be considered together, and it is on those two propositions that I have suggestions to submit for your consideration.

I am absolutely convinced that the success of any scheme of reform in the medical aspect of asylum or rather lunacy work depends entirely upon the provision of definite post-graduate training of our future alienists, and this post-graduate training can only be organised and rendered effective if instituted by the universities or other teaching bodies as suggested by Dr. Maudsley and a diploma in mental medicine be granted, without which no one can aspire to lunacy work or appointments. The Medico-Psychological Association has made a laudable effort to stimulate the study of mental diseases by giving prizes and by instituting a certificate of proficiency. Unhappily the response has not been satisfactory.

As to the ways and means and the scope of this post-graduate training I can in this introductory paper merely outline the latter, but one or two years' study of the following subjects would be essential:

(1) The anatomy and physiology of the nervous system.

(2) Neuropathology.

(3) Experimental psychology, normal and morbid, such work, for example, as that done by Dr. Sherrington, of Liverpool, Dr. Rivers, of Cambridge, and one or two others.

(4) Psychiatry, systematic and clinical.

All those subjects could be taught in the wards and laboratories of a mental hospital, such as Dr. Maudsley proposes in London, and afterwards in similar institutions in the great teaching centres, Edinburgh, Dublin, etc., and would provide what he asks for, the "good" instruction he refers to in his letter. Dr. Maudsley does not write loose English; he must have had some comparative idea in his mind as between what is in vogue in the way of psychiatric instruction at present, and what that psychiatric instruction ought to be in his use of the word "good" before the word "instruction."

I understand that the London County Council have remitted the matter of the "Maudsley Bequest" to their Asylums Committee for consideration and report. I am aware

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that that body comprises many eminent men, and some with knowledge of asylum work, but I sincerely trust they won't be above appealing for expert advice in such an important matter.

No one is more cognisant than myself of the difficulties ahead in this matter of the proper training and teaching of our future alienists, but in this introduction to a discussion on the subject I won't refer to these at present, but conclude my remarks by moving "that the Education Committee of this Association be instructed to consider a scheme on the lines I have suggested for post-graduate teaching in mental diseases or psychiatry" (which, as I have endeavoured to show, is by far the most important and crying want at the present time), "so that we may approach the universities or other teaching bodies on the subject."

(1) By the way, I read in the prospectus of a London post-graduate college that a course of five demonstrations on mental diseases will be given by a medical officer of one of the London County Asylums! Well, the only comment one can make on this is "better a small fish than an empty dish."

Discussion.

At the Quarterly Meeting on May 19th, 1908, in London.

Dr. Savage said that the subject was a most important one, and he felt strongly with Dr. Thomson that the teaching of psychiatry must be reorganised. One knew what would be best but one felt the extreme difficulty of obtaining it. He said that in training men to become efficient in the treatment of those who are of unsound mind there were certain points it would be essential to consider. Firstly, in staffing their large institutions they must provide a medical superintendent. If the chief administrative officer were not a medical man they would soon relapse into the sad state of affairs which once existed. Secondly, many persons of unsound mind did not require what was ordinarily meant by the term "medical treatment." Harm was done by keeping certain patients in bed, taking their temperature, looking at their tongues and examining their stools and their urine, and one was sure there were large numbers of patients whose disease could not be demonstrated by any method unless the medical man were a resident in the asylum. As regards the treatment of patients, some of the suggestions made recently were anarchical in character; people were not satisfied with what existed and therefore desired to do away with it all and start afresh. He feared, however, that such a course would not lead to the desired goal in their branch of medicine. A practical plan which had to some extent been adopted was to have hospital wards in connection with the asylums, and the London University had set a good example by providing that men might take their degree of Doctor of Medicine in Psychiatry. His own feeling was that there was a slow development, and it was being realised that more psychiatric teaching must be given, more use must be made of hospital wards in asylums, and that it might be helpful to have wards for the insane attached to the general hospitals.

Dr. Percy Smith agreed as to the incompleteness of the course of instruction which medical students received in mental diseases, but quite realised that owing to the many claims on their time it was impossible to extend this course. The student was taught anatomy and physiology in the early part of his curriculum, and neuro-pathology was included in the instruction given in the lectures and demon-

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strations on pathology, but he certainly had not time to attend a course of experimental psychology. As to acquiring a knowledge of psychiatry, the members of the Medico-Psychological Association knew that the only way to accomplish this was by the daily observation of the insane and by living in the same institution with them. He wished to ask whether Dr. Thomson thought no one should go as a junior assistant medical officer to an asylum unless he had taken out special courses of instruction in the various subjects which Dr. Thomson had indicated as being suitable for post-graduate study. If that was Dr. Thomson's view he held that the market would be closed. Many men did not know whether they wished to pursue the study of mental diseases until they had had actual experience in an asylum. With regard to the Medico-Psychological Certificate, there was no doubt that if it had been properly taken up by superintendents of asylums throughout the country there would have been by the present date a larger number of men who had specially worked at psychology and mental diseases and who would thus have been well qualified to advance the treatment of the insane. He recognised with regret the apathy displayed by some medical officers, but at the same time knew that there existed a large body of highly-qualified men in their particular branch who, though producing no epoch-making discovery, were doing their daily work with thoroughness and interest. If Dr. Thomson looked through the list of members of the Association he would see that their qualifications were as good as those of men in any other branch of the profession. Dr. Smith referred to the post-graduate courses of instruction which he had given at Bethlem Hospital, and stated that his experience was that the men wanted clinical teaching there.

Dr. David Orr said that ten years in an asylum was enough to open one's eyes to the good points in asylum work. There were many good points in asylum administration, and there had been for years. Dr. Thomson's suggestion was that, instead of sitting down self-satisfied, they should go a little further forward. Without touching on the difficulties which had been mentioned, he thought that if the present question were looked at squarely it resolved itself into one as to whether they in the specialty should stay where they were now. Should English psychiatrists be behind the whole world? No one could follow the French, German, and Italian literature without coming to the inevitable conclusion that most of the men engaged in asylums in those countries knew their clinical psychology, their psychiatry, their pathology and neuro-pathology splendidly, and that they were thoroughly trained men; that they had every opportunity of being trained and doing thoroughly good work. The fact was undeniable that it was hopeless at present to take our position with those men; we could not do it. Therefore it was necessary to decide whether it was worth while to establish good post-graduate teaching. As Dr. Thomson had said, that was the only way in which the specialty, as a specialty, would rank with the specialty in other countries, and other specialties in our own. As to the training of medical superintendents, he thought that assistant medical officers would be able to devote as much time to science as to the administrative part of their work; and, having been thoroughly trained in the first instance, having worked during their period of waiting for promotion, they would be in a position to direct good scientific work on the part of their juniors. This should be the position of the superintendent in England ultimately.

Dr. C. A. Mercier said he had greatly admired the dissertation of Dr. Thomson, because he had put into words what he (Dr. Mercier) had been thinking for years. He knew that Dr. Thomson's opinions as expressed in the paper were held very widely, much more widely outside their specialty than inside it. He had been delighted to hear the breezy optimism of Dr. Orr, that they were not to be deterred from attempting reform because it was difficult. He remembered formulating in that Association years ago a saying for which he was grievously taken to task. He was asking what men came into the world for, except to overcome difficulties, to make impossible things possible. No doubt there were difficulties before them in connection with the present question, but those difficulties ought to be, and could be, surmounted. The amount of education in psychiatry which was given to the ordinary medical student could not, for the reasons Dr. Percy Smith had given, very well be enlarged; the time of the student was already too much occupied. What required to be given to the ordinary medical student who was going into general practice was such a knowledge of insanity that he would be enabled to

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recognise an insane person when he saw one, and so that he might know when it was advisable to call in a second opinion. It was not for such a practitioner to discuss the niceties of psychiatry, or to be able to treat a case right through. But the subject which Dr. Thomson had just brought forward was a totally different one; it referred not only to graduate, but post-graduate study; it concerned the training of experts to take their places in our great asylums; not only the study and treatment of the insane, but, still more important, the advance of our knowledge of psychiatry. He did not at all agree with what Dr. Orr had said as to this country being behind the rest of the world concerning psychiatry. He thought the natural modesty of all Englishmen was apt to be very much exaggerated in that direction. As an examiner he found that candidates gave him the opinions of Germans and Italians and Americans, and that they read German, Italian and American books quite unnecessarily, because the knowledge which they got from them was, for the most part, second-hand knowledge derived from this country. What the Germans, Americans, and Italians did for the most part was to give new names to things which English alienists had known for a long time and present them as new discoveries under the new names. He did not think the study of psychiatry was at all backward in this country, but the teaching of it was. There ought to be better organisation and better methods of teaching psychiatry and training men to take their places in the extremely responsible positions of the heads of the great public asylums of this country. It had been alleged—he did not know with what truth—that candidates for the junior places in our public asylums found the posts unattractive. But there was no branch of medicine so well paid or which met with such a certain and large reward as that of psychiatry. He agreed that every person who contemplated holding a responsible position in an asylum should be a skilled psychiatrist. The actual scheme of training was a matter of detail, which might be left to the committee which Dr. Thomson suggested should sit upon the question. It should be comprehensive and thorough, and include the preliminary subjects as well as the advanced ones. Dr. Thomson recommended experimental psychology. He had no strong opinion that experimental psychology should be excluded, but he had no very sanguine hopes of it being of any great importance. But that normal psychology should be studied he had no doubt at all. If insanity was, as it was always called, a disease of the mind, or a disorder of the mind, if its synonym was unsoundness of mind, surely persons who studied it and were constantly immersed in the treatment of it ought to know something about the normal mind before studying the abnormal mind. He felt very strongly that efforts for the promotion of post-graduate study in insanity were very sorely needed; that the asylums in the neighbourhood of our great cities and towns were the proper seats of that instruction. The most important matter of all, perhaps, was to get the licensing and examining bodies to grant diplomas and degrees in that most important subject. Until recognition of that was secured he did not think the study would ever be promoted successfully. If men had attained to a considerable degree of knowledge of the subject, they would want to possess a diploma, some guinea stamp to show that they had attained that knowledge. Unless that could be done, he very much doubted whether the efforts of the Association would be attended with success. He did not see why other universities should not do as London University had done, and grant a degree in psychiatry, nor why the colleges should not be giving some diploma in psychiatry, as was being done in the subject of public health and in tropical medicine. It seemed to him to be such a natural development of the perpetual training and the increasing knowledge, for it was impossible for any one man to know the whole of medicine; and it was most desirable that every man who took up any special branch of medicine should be thoroughly well grounded not only in the more advanced, but in the more elementary and preparatory studies, so that he should have a firm grasp of the whole. That range of study, however, could not be secured except by the regulations of examining bodies which required a thorough academical knowledge of the whole subject from end to end. The study of the subject needed to be systematised. The mere effort of persons working voluntarily must be backed up by the sanction of the universities and other examining bodies, and he would like, with Dr. Thomson's permission, to add a suggestion that the subject should go before a committee of the Association, which should be empowered to approach the

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examining bodies to ascertain what part they were willing to take in promoting the post-graduate study of psychiatry.

Dr. HUBERT BOND said he was sure that all present had listened with extreme interest to Dr. Thomson's paper. it was a subject on which he had himself often pondered and which he had at heart. There were sometimes two yolks in an egg, and that was what he felt in regard to Dr. Thomson's contribution, namely the desirability of inducing universities and qualifying bodies to establish and grant a diploma in mental diseases, and the necessity to then persuade asylum authorities to demand that candidates for their medical appointments should hold such. Was the situation not comparable to the Public Health Department? All present would remember the day when a public health diploma was not necessary for the medical officer of health; and the moment it became necessary a great rush was made to the portals of the universities and qualifying bodies to obtain those diplomas. It would be just the same in their own field if a strong committee could persuade the universities to grant such diplomas, and then asylum committees or Parliament that such diploma should be necessary, at any rate in respect of medical appointments in asylums of a certain size.

The SECRETARY read a letter which had been received from Dr. Clouston, in which he said he regretted his inability to be present at the meeting, as he would have liked to take part in the discussion on Dr. Thomson's paper on the teaching of psychiatry, and to express his opinion in favour of the author's general proposals. Dr. Clouston said he thought the subject a very important one for the future of their department, and suggested that the question be brought up at the annual meeting in July. It might be well, he thought, for the Educational Committee to discuss it in the first instance.

The PRESIDENT thanked Dr. Thomson for coming forward and reading his paper. He joined with Dr. Mercier in saying how pleased he had been to hear Dr. Thomson have the courage of his opinions and call a spade a spade. Then, how or where were all the necessary trained men to be got whom Dr. Thomson wished to have in asylums? Surely the proper places in which to train them were institutions where they could get the necessary and full experience, not only clinical, but pathological and other. That being so, he was curious to know how Dr. Thomson would staff the asylums with trained men unless they went through the asylums and trained, as at present. It was possible—and he thought it would come—that the heads of asylums should possess certain definite diplomas. Much as Irishmen were accustomed to complain at the way they were treated, he thought that in this respect they went one better than we in this country, as he understood that no medical officer could be appointed superintendent of an Irish asylum unless he had been qualified a certain number of years, and had had a definite amount of experience. That was all in the right direction. If they would only provide for a diploma in this special branch, they would go a long way to meet Dr. Thomson's idea, which was an excellent one. While there might be differences of opinion on details he was sure there was but one opinion as to the desirability of everyone, especially those at the head of institutions for the insane, possessing the requisite qualifications as to training and experience, so that they might help and encourage those working under them. He would join with Dr. Mercier in saying that Dr. Orr seemed to depreciate his own work. So long as Dr. Orr and his colleagues were able to continue the splendid work upon which they were engaged he did not think there was reason to fear comparison with the work which might be done by Germans, or Italians, or Americans.

Dr. MERCIER said he understood Dr. Thomson to propose a resolution, and he would be glad to second it.

The PRESIDENT said it would be more convenient to take that afterwards.

Dr. THOMSON, in replying on the discussion, said he was grateful to Dr. Savage for giving the meeting the benefit of his wide knowledge and experience; but he went more into detail, in regard to which he, Dr. Thomson, admitted there were difficulties; and that stage had not yet been reached. All that he asked was that that meeting should come to some agreement—or disagreement—about the principle. He really referred to the future mental hospital for acute cases, or even the hospital block for acute cases in connection with the large asylum. He said in his paper that it was only the acute cases which counted. Everyone knew

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that the majority of cases in our asylums were incurable; nothing more could be done for them than at present. It was to the early acute cases that his views were particularly meant to apply. He had been asked what were his views as to how the executive medical officers would work and what his general scheme would be. He again replied that that was a detail, which would have to be settled later on. He was very much in the position of the Socialist. The Socialist could not give any definite picture of what his ultimate Utopia would be like; it would be evolved as he went on. It was the same in regard to the present subject. As Dr. Orr said, the difficulties would vanish as the reform went on. He thought Dr. Percy Smith had rather laboured the point about the medical student. He had great sympathy with the unfortunate medical student; he had a son at Cambridge now, burdened with every kind of "ology," and it was true that he did not want any more on his already overloaded back. His views had been directed entirely to post-graduate training. How was it that when he advertised in the *Lancet* and *British Medical Journal* for an assistant medical officer he got only two applicants, and they were not suitable for the vacant post. It was that condition of things which he wanted to alter. That would, as Dr. Bond truly said, be altered by his scheme, and as soon as a diploma in Public Health was required there was a rush to the portals to secure it. He agreed with the President that Dr. Orr depreciated his own pioneer work in pathology. He could not go the length of agreeing with Dr. Mercier as to the position of the British alienist compared with that of his colleague abroad. The President had asked where the men were to come from, and had said that the heads must be taught, so that they could encourage the young men. But a beginning must be made at the other end, with the juniors, the newly-fledged graduates. One could not begin at the top and train the superintendents. He was much obliged for the way in which his paper had been listened to. He had perhaps been somewhat brusque, and called a spade a spade, but it was not likely to go forth that he had done any injustice to the great work of the men who had preceded them. At the beginning of his paper he said that everlasting honour was due to the men who had done so much for asylums and asylum work in the last fifty years.

The PRESIDENT said, with reference to the proposal at the end of Dr. Thomson's paper, that Dr. Clouston in his letter seemed to make a helpful suggestion, namely that at the Annual Meeting a motion should be brought up on the subject. He feared that under the rules anything done that day would be of such a small character that no real good could come of it. He suggested that Dr. Thomson should give notice of his intention to bring forward a motion on the subject at the Annual Meeting.

Dr. MERCIER pointed out that Dr. Thomson's motion referred the matter to the Educational Committee now. By the present suggestion three months would be lost.

Dr. PERCY SMITH asked that the motion might be read again.

Dr. THOMSON said he moved that the Education Committee be instructed to consider some scheme on the lines he had suggested, for post-graduate training in mental diseases, so that the Association might approach the Universities and teaching bodies on the subject. He did not bind himself to that, but was inclined to agree with the President's suggestion that he should give notice of a motion at the Annual Meeting.

The PRESIDENT said the matter could be referred to the Educational Committee as well.

This was agreed to.

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Some Points in the Histology of Lymphogenous and Hæmatogenous Toxic Lesions of the Spinal Cord.(1)

By DAVID ORR, M.D., and R. G. ROWS, M.D.

AT a quarterly meeting of this Association held last year at Nottingham, we showed the results of our experiments with toxins upon the spinal cord and brain of rabbits. Our main conclusion was, that the central nervous system could be infected by toxins passing up along the lymph channels of the perineural sheath. The method we employed in our experiments consisted in placing a celloidin capsule filled with a broth culture of an organism under the sciatic nerve or under the skin of the cheek ; and we invariably found a resulting degeneration in the spinal cord or brain, according to the situation of the capsule. These lesions we found to be identical in morphological type and anatomical distribution with those found in the cord of early tabes dorsalis and in the brain and cord of general paralysis of the insane. The conclusion suggested by our work was that these two diseases, if toxic, were most probably infections of lymphogenous origin.

That the lymph stream in nerves is an ascending one and capable of conveying infection has been demonstrated by a variety of experiments, principally by observing the course of organisms and coloured fluids after their injection into the nerve substance. In addition we have found after smearing Indian ink paste upon the surface of the sciatic nerve that the granules percolate into the perineural lymph spaces and are carried upwards towards the cord in the lymph current.

But it is obvious that the brain and cord may become infected in another way, *viz.*, by the circulation of toxins in the general blood stream. To the lesions so produced our attention has been directed for the past year ; and although the research in this direction is still far from complete, we think we are now in a position to put forward one point especially, *viz.*, the difference in anatomical distribution which exists between lymphogenous and hæmatogenous infections of the posterior columns.

This difference seems to be so clearly defined as to suggest that system lesions, such as tabes dorsalis and those occurring

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FIG. I.—From a case of G.P.I. Dorsal cord; Wolter's method.
1. Sclerosis of root entry zone. 2. Fibres around median septum normal.

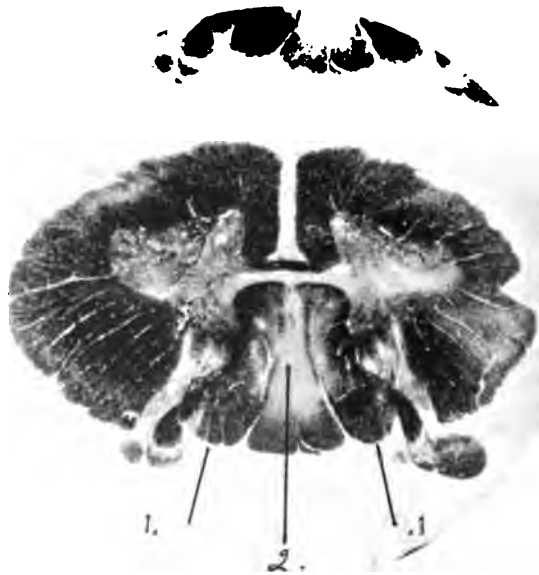

FIG. II.—From a case of Addison's disease. Cervical cord; Wolter's method.
1. Root entry zones normal. 2. Sclerosis around the median septum.

TO ILLUSTRATE THE PAPER BY DRS. ORR AND ROWS.

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in the cord and cranial nerves of general paralysis of the insane, fall into the lymphogenous group, while those found in acute insanity, leukæmia, pernicious anæmia, Addison's disease, metallic poisonings, and other forms of general intoxication fall into the hæmatogenous group.

Clinical cases and experimental evidence show that in the case of *lymphogenous* infection (Fig. I) it is the intra-medullary portion of the infected nerves which suffers first, so that the degeneration is confined to their entry zones for the most part. Thus, for example, in the posterior columns of the cord the degeneration shows first in the postero-external fasciculus, while the fibres around the median septum remain normal. The more toxic the lymph passing into the cord is, the greater tendency there is to diffusion of the lesions; with diffusion, changes are observed round the cord margin and along the septa. The morbid process spreads from below upwards. Marchi's osmic acid method gives a positive reaction.

Hæmatogenous lesions (Fig. II), the result of a general intoxication, contrast markedly with the above. For example, in the cords taken from visceral cancer the degeneration is very diffused; in the posterior columns it affects the fibres around the median septum first and spares the external fasciculus. It implicates the basis bundles, partly the crossed pyramidal tracts and the fibres in the grey matter, and to a slight extent the cord margin. The lesion is more marked in the cervical and upper dorsal cord; the lumbo-sacral region may be practically healthy, although it may be implicated by downward extension of the morbid change. The type of degeneration differs from that in lymphogenous lesions. Frequently the Marchi method is negative. The morbid change usually consists in slow atrophy of the myelin, but with increased blood toxicity the myelin sheath becomes greatly swollen, thinned, and varicose, and the whole cord œdematous.

(1) Contributed at the Quarterly Meeting in London, May 19th, 1908.

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Clinical Notes and Cases.

General Paralysis in Father, Mother and Son (1). By COLIN F. F. MCDOWALL, M.B., M.R.C.S., Assistant Medical Officer, Newcastle City Asylum.

WHEN as a boy at a Grammar School in 1892 I knew slightly another pupil, J. D. E—, and it was an open secret among us that his mother was a patient in the County Asylum in the immediate neighbourhood. In 1893 I lost sight of him as I changed my school, and so it came about that I did not see him again until he was admitted to Morpeth as a patient. I had long known the mother by sight as a patient in the asylum, but I learned more concerning her mental condition during the time I acted as clinical assistant.

So far as I can ascertain no record is in existence where a father, mother and son died of general paralysis. These cases, therefore, appear to be worthy of publication as a remarkable family history, and as an addition to our knowledge of a disease which constantly increases in importance. The clinical records of the mother and son are particularly interesting, and raise points of great clinical importance, but any remarks that seem necessary I shall defer until I have given the histories of the three patients :

The facts I am able to give about the father are few, but not without importance. When he was admitted to a private asylum in 1878 he was stated to be forty-three years of age, married, and suffering from general paralysis. He was described as tall and well made, cheeks hollow from recent illness, feeble in body : he walked irregularly, articulation was much affected, sometimes unintelligible. A note made a few days after admission says : "There is nothing special in this case, except that the speech and memory are much more affected than the spinal symptoms. The duration is said to be about ten months, and the cause "too free living." His memory is bad, and he does not know where he is ; thinks this an hotel. Has various fancies. Is just recovering from severe excitement, which has pulled him down, and which recurs occasionally. Sleeps badly, and not without a draught of chloral."

He improved in bodily condition for about two months, though mentally he was more childish. He suddenly became affected with hemi-

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plegia of the left side, and was speechless. He continued unconscious for three days, and then died.

The cause of death was certified to be general paralysis.

The history of the mother as to her mental condition extends over twenty-two years. The original notes are very voluminous, but I shall omit all that are not essential to a true understanding of the case.

It is believed that the patient had her first attack of insanity in the year 1880, when she was thirty-two years of age, that is about two years after the death of her husband, but she was not sent to an asylum for care and treatment.

In November, 1886, she was admitted to the Holloway Sanatorium suffering from her second attack. She was described as a gentlewoman, which she really never was, as not suicidal, but occasionally dangerous.

The certificates on which she was admitted give a very good description of her condition.

The first says: "She tells me that she is much annoyed by her children and neighbours using offensive language to her and making noises, which she thinks are intended to vex her. She said that she was once so much annoyed that she violently beat the piano and broke one of the keys. She admits that this seems strange, but will not be reasoned out of it, though she cannot account for people doing these things.

"Her eldest child (a daughter) tells me that she has beaten her without provocation, on one occasion kicked her out of bed and made her get a tumbler of water, which she then threw at the child and cut her lip."

The second certificate is as follows: "She tells me she hears voices constantly impelling her to perform acts of violence, but is unable to say whether the voices are male or female. She says that she is unable to resist the impulses. She says that an impulse led her to thrash her son on last Saturday night when he was lying asleep. She complains that she has no memory; that some months ago she felt an impulse to stab her lodger.

"Her daughter tells me that her mother two or three months ago broke her umbrella over a strange lady's back in Finsbury Park; that she thrashed her little boy at night two weeks ago. I examined the child at the time and found him bruised."

Description and condition on admission: A tall, moderately good-looking lady, dark brown hair, pale clear complexion; rather large chin; figure slight and rather graceful; conversationally she is fairly agreeable and rational on most points; says unreservedly that she hears voices talking to her, at night especially. She says that latterly these voices have troubled her a good deal, and have urged her to do things she would not wish otherwise to do. She is very exacting in the amount of attention that should be shown her by nurses and others; would like to be waited on in every particular, and if she does not receive everything she expects in this way she becomes extremely irritable and positively rude at times. She seems to have a very big idea of her own importance. Sometimes she talks aloud to herself and laughs without any apparent reason.

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November 7th.—She is still the same; seems to have settled down fairly comfortably; says that she is still troubled by hearing voices talking to her.

November 30th.—Is somewhat better; seems very fairly satisfied with her surroundings and willing to be guided by the advice of others. General health fair.

March 10th.—She still complains of hearing voices at night, which disturb her, otherwise she seems quite rational, with the exception of an occasional outburst of bad temper, when she is very rude to everybody indiscriminately.

In May it is noted that no change has occurred; on May 12th a similar note occurs; on May 18th she was discharged on leave, and on December 30th, 1887, she was written off as recovered.

On December 30th, 1892, she was admitted into the Northumberland County Asylum, Morpeth, suffering from mental symptoms closely resembling those she exhibited in her former illness. The exact duration of the attack was not known, but it was put down as about two or three years. The medical certificate stated that she used violent language, and had delusions as to people coming into her house and interfering with her water taps and dirtying her house. As a result of these delusions she abused her neighbours, threatened violence, broke the windows, and threw the kettle through the sash.

Her grandfather on the mother's side was insane. Her sister is a certified lunatic at the present time, and her brother committed suicide.

On January 3rd, 1893, she was certified as labouring under delusional insanity. She stated that the neighbours tormented her by knocking on the wall night and day; that a power beyond her control made her throw things about; it also affected her back and the lower part of her body. She was in excellent bodily health.

A week later it is noted that she has been transferred to another ward, where she had settled down very well and was working industriously at her sewing, but associating very little with the patients and nurses, though ready at any time to answer questions put to her by the medical officers. A week later it is stated that she had several attacks of transient violent excitement and bad temper. Thus many months passed: she was reserved, suspicious, occasionally sleepless, generally industrious, but occasionally excited. She frequently concealed her delusions, and so led the nurses to believe that she was forgetting them, but they were there as before, and were the cause of frequent rows with her neighbours. On November 22nd, 1893, it is noted: "She remains in the same condition; is dangerous and impulsive, throws furniture about. She killed a cat by dashing it on the floor with great force; she said it was annoying her. When the morning visits are made she sits quietly in her chair and smiles benignly, only to break out into violence when the medical officers have left."

Six months afterwards it is recorded: "Not altered, for days she may be quiet and well disposed, but there is always a storm in the end, when she will be very vicious and strike innocent patients and nurses."

On December 1st, 1896, the continuation certificate was as follows: "She labours under delusional insanity. She states that in her sleep men molest her sexually, that the women in the ward are more like men and

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affect her in the same way; although they do not come into her single room, they affect her with their breath."

Again in April, 1897, it is noted that she has perverted sexual ideas and delusions, and so she continued until January, 1899, when the following note occurs: "She has exalted notions regarding her position in life, and objects to having anything to do with or sitting near the other patients, and is easily excited by them. She has a very deficient memory for time and recent events. Fine tremors are noticed at the angles of the mouth during speech, and her articulation has gradually become very indistinct. Her pupils are unequal and irregular. Her general health appears to be good. Weight is 152 lb., her usual weight."

This note contains the first hint that the patient suffered from general paralysis. During the next eighteen months the disease made no progress, for the continuation certificate, dated December 8th, 1899, says: "She is labouring under delusional insanity. She states that the people about her read her thoughts and give her chills. She is very suspicious and hypochondriacal. Bodily condition good. Heart and lungs normal. Some signs of general paralysis are present."

Except that she became gradually very moderately demented no marked change occurred in her mental and bodily condition until January, 1901, when it was noted: "It has been noticed for a while that patient has been quieter and less inclined to talk. Her appetite was also poorer. About three days ago she became very restless and insisted that she felt that she could not remain in Ward 6. She was accordingly transferred to Ward 2. For several mornings she has refused breakfast, and is taking her other meals very badly. This morning she was so noisy and excited that it was necessary to put her to bed in a single room. She will keep no clothes on her whatever, says that everything is 'rotten,' that she is rotten; wishes all her hair cut off and her teeth pulled out.

"She got a dose of sulphonal, had a good night, and was able to be out of bed next day much improved."

January 14th, 1901.—Yesterday she seemed better on the whole and she slept well last night, but this morning about seven o'clock she fainted. She refused her breakfast and said that she felt ill. She was given a little whisky and put to bed. When seen at morning visit her pulse was fairly good but rapid. She refused to allow any thorough examination, and the muscular tremor was so great that nothing definite could be discovered in her chest. She speaks with extreme difficulty; says that she is "breathless and cannot swallow." She is very pale and the muscles of face extremely tremulous. She was persuaded to swallow a little warm milk but otherwise refused all food. Pupils very contracted.

February 4th, 1901.—Patient is sleeping very badly again; is excited and noisy at night. Still gives much trouble about keeping on her clothes, and the whole day she spends in spitting a copious supply of saliva on the floor. She has been ordered a draught of sulphonal gr. xxx every night.

March 4th, 1901.—Since February 14th she has had a sleeping draught every night, yet she is frequently restless and noisy all night. During the day she does not voluntarily converse, but spends the time

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in sitting in a chair assuming peculiar attitudes and expectorating incessantly. She is absolutely idle and has been making very peculiar faces, as she says, because of the nasty smells. Appetite somewhat improved, but she has lost fourteen pounds in weight during the past three months. This is easily accounted for by the continued excitement and by the administration of sleeping draughts.

April 8th, 1901.—Patient is not now so restless at night and as a rule sleeps fairly well under the influence of whisky and hot water, the sulphonal having been discontinued. During the day she sits quietly in her chair, paying very little attention to her surroundings. She appears to be trying to pull out her front teeth with her fingers. When not so employed she grinds her teeth so firmly that the noise can be heard over the whole ward, she also picks her nails until they bleed. Her general health is less satisfactory and she looks ill, though she now takes her food readily.

May 6th, 1901.—She is steadily going down in weight; is dirty in her habits night and day, and frequently sleepless and noisy.

July 15th, 1901.—Her speech has been for some time typical of advanced general paralysis. She sits in her chair in the conservatory sleeping and grinding her teeth. All her front teeth are now loose as the result of her constant pulling at them, and one had to be removed on account of its inconvenient looseness. Although so demented as practically to know nothing she still thinks that people have a spite at her. She is now quiet and well behaved, and even tries to do a little sewing. Eats and sleeps well. Weight 131 lb.

She improved physically and increased much in weight (up to 160 lb.) until March, 1902, when she again began to fail in bodily health.

March 21st, 1902.—Patient seems very feeble and has been sent back to bed in the infirmary. She is very pale and her pulse exceedingly feeble. She seems to be unable to speak. She has a curious and inexplicable protrusion of the lower jaw, as if it were dislocated forward; but it is not dislocated as the jaw can be easily pushed into position, and the deformity appears to be due to muscular action. She is taking little nourishment and is exceedingly restless at night. She is spoon-fed and is on four ounces of whisky daily.

March 22nd, 1902.—At morning visit patient seemed much the same as yesterday, but was a little quieter and possibly slightly more feeble. Her pulse was almost imperceptible. She had slept fairly well. Was dirty in habits.

About 1 p.m. the nurse noticed her to be breathing heavily and sent for the assistant medical officer. Patient was cyanosed, pulse imperceptible, and she was evidently sinking fast. She was unable to swallow. She died at 5.50 p.m.

The preceding notes do not contain any reference to a few matters which may be mentioned. The patient had retention of urine on a few occasions, perhaps three or four, during the last weeks of her life. Whilst in the infirmary before she finally went to bed she had attacks of excitement once or twice a day, during which she shouted, laughed, threw her arms about, and sang. She extemporised both the words and the music; the words were about her children.

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During these attacks she seemed to be distinctly happy. Though becoming very demented in the infirmary she still had the delusions about men coming into her bed. She shouted and got out of bed as quickly as she could, saying she could not lie in bed for men attempting to interfere with her. These attacks were very frequent, occurring several times a day. She also had attacks of excitement of a different character. Whilst in bed she drew up her legs tightly and clasped her kness in her arms and revolved on her buttocks, shouting all the time as if she were afraid, but what she said was unintelligible. If approached at such times by the nurses she bit and scratched them.

I will now give a condensed history of the son, J. D. E—. When admitted to a private asylum on April 20th, 1900, he was twenty-three years of age.

The first certificate states: "Patient imagines his late employer to be Jack-the-ripper and the next-door neighbour to be his secretary; says they constantly persecute him with intent to murder him, but that he is protected by two talismans which he calls a moonstone and a knuckle-duster, and which are able to counteract the machinations of these two persons. He constantly sees these persons in places where they cannot possibly be, and often imagines that they are following him in disguise. His brother informs me that patient says he received a message from God last night forbidding him to sleep, and he spent a long time on the door-mat of his bedroom watching for Mr. — (late employer) and Mr. — (neighbour), whom he said he heard in the house. When in London a short time ago he applied to Scotland Yard for protection against these two persons, who were following him as he thought."

The other medical certificate records some interesting delusions of the same kind as those already given. It states: "He says that he is persecuted by a band headed by Jack-the-ripper, who is the same as his former employer and at the same time is the Devil. They act upon his 'power of will' which he has had to fight against; they connected an electric battery to his bed one night and gave him a shock. He jumped up quickly and heard them laughing. They are all devils and track him from place to place. The patient's brother informs me that at a performance at the Hippodrome he said that the performers were royalties and the lion tamer was the German Emperor."

He was certified as labouring under delusional insanity by the asylum medical officer. He was described as a tall, intelligent-looking young man with an abstracted expression. Bodily health good. His attack of insanity was stated to be of six weeks' duration, and due to influenza. The notes further describe him as variable and strange in his ways, incoherent, deluded with strange religious views. Occasionally he was rather violent, but as a rule absent-minded.

On account of his limited means he was transferred to the Cumberland and Westmorland Asylum on September 18th, 1900. From the copious notes made as to his condition there comparatively few extracts are necessary. Physically he was a healthy young fellow. His patellar and plantar reflexes were normal, and his pupils equal, dilated and reacted normally. During the two and a half years he remained at Garlands he had numerous attacks of excitement and violence. He

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was tried with depressants and hypnotics but with no very great success. During one of his wild attacks he fractured his right fibula. Even when so disabled he attempted several serious assaults, and at that and other times he evidently had homicidal tendencies. At night he became dirty in his habits, and occasionally so troublesome that he had to be removed from the dormitory and placed in a single (strong) room.

In April, 1901, he is described as much quieter and more easily managed.

In March, 1902, he was dull and stupid. He seldom spoke, and, as usual, was quite idle.

Then he had a succession of attacks of excitement and violence, requiring sedative treatment.

In November, 1902, he was transferred to the Northumberland County Asylum. During the last three months of his residence at Garlands he was in his quiet mood. He gave no trouble, seldom spoke, and was boorish in manner.

When he arrived at Morpeth he was in excellent bodily condition. It was noted that his reflexes were all normal.

The following notes conclude the record of his life:

November 6th, 1902.—It is with great difficulty that one can get him to answer questions. He states that he came here to oblige a man called Dixon. He does not know day or month. He won't look at me when I speak to him but turns his back, at the same time putting his hands to his head and keeping his eyes closed.

November 10th, 1902.—Medical report. He labours under delusional insanity, probably with general paralysis. He laughs immoderately and without apparent reason. He is as a rule obstinately silent but occasionally makes incoherent answers; says his father was legislative linguist and Russian Consul. He blew out a taper and then said that no other man could do that. His bodily health is good, but he probably suffers from general paralysis.

November 17th, 1902.—There is no change in this patient. He likes to attract attention by standing in front of one of the airing courts, or stuffing his pipe full of paper. He is incoherent in speech and laughs vacantly. Eats and sleeps well. Does no work.

November 24th, 1902.—There is no change to note in this youth. He smiles fatuously when looked at; is generally silent.

December 8th, 1902.—This young fellow was found dead in bed this morning in an ordinary dormitory. He was lying in a natural position on his back, as if sleeping, with the bed clothes just above his eyes. The body was quite warm but the feet and hands were beginning to cool. The face wore a placid expression. There was a quantity of froth oozing from the mouth, and the tongue was held tightly between the teeth. *Post-mortem* rigidity was well-marked, and *post-mortem* lividity was beginning to show in back and buttocks. There was no evacuation of fæces. Corresponding to the neck band of his shirt there was a distinct constriction of the neck right round, and along this line the cuticle has been ruffled at numerous minute spots. The line of constriction was most marked in front; it was not appreciably depressed; was about half an inch in breadth in front and disappeared to nothing

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at back of neck. The neck and face were of a distinctly dusky hue, and were also swollen. An examination of the mouth was impossible owing to the firm closure of the jaws. The appearances of the body and the circumstances under which death occurred seemed to indicate that death was due to accidental strangulation occurring during a congestive attack.

The details of the *post-mortem* examination need not be given in detail. It may be stated generally that the organs in the thorax and abdomen were quite healthy. The condition of the lungs, cardiac cavities, and blood indicated clearly the mode of death.

Head: Scalp very thick; skull rather thin, somewhat engorged.

Dura mater thickened, adherent to skull in several areas and to brain in both parietal regions.

Sinuses contain fluid blood.

Pia-arachnoid slightly thickened, and in a few places in parietal regions milky.

Brain weighs sixty-five ounces. Convolutions slightly flattened. Substance apparently normal. No excess of fluid in lateral ventricles, and no granularity of lining membrane. No atheroma of vessels at base and no local lesions in basal ganglia. The fourth ventricle is markedly granular.

Such are the records of the three cases. Naturally, as they have been compiled from the case-books of four asylums, the histories are wanting in some details which would have added materially to their value, but even as they stand they are of much interest. There is one point in the history of the mother about which an additional remark may be made. It is stated that when admitted to Holloway Sanatorium and to Morpeth Asylum her pupils were normal. That may be so, but it is nevertheless a fact that for several years before her death she had pin-point pupils. This sign naturally gave rise to some discussion, and at various times the possibility of the patient being really a general paralytic or a possible case of tabes was mentioned.

The history of the son requires to be added to in one place only: When admitted to Morpeth the report on his condition stated that he probably suffered from general paralysis, but the reasons for that opinion were not given. At that time the patient's speech was strongly indicative of that disease, and it was also observed that the muscles of the nose and the angles of the mouth presented well-marked fibrillary contractions.

It is not intended to discuss the whole subject of general paralysis in connection with these three cases, but a few brief remarks may be made on one or two points, leaving others for discussion by the members present.

Although general paralysis is such a common disease, examples of husband and wife are not common, and comparatively few have been recorded. It may be stated with confidence that medical literature does not contain a record similar to what has now been read, where father, mother and son died

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from the disease. About the diagnosis in these three persons there can be, I think, no doubt; that the father and mother were typical and undoubted cases no one of experience would question. Perhaps about the son some might be inclined to doubt, but it appears to me practically certain that he had the misfortune to die during his first congestive attack, and thus deprived us of the opportunity of further and minute observation of what must be regarded as a singularly unusual and interesting condition. No doubt some of the classical signs were wanting, but there were enough found during life and after death to make the diagnosis certain to my mind.

To have read a clinical account such as this upon general paralysis and to have omitted the word syphilis, must appear strange. We have no absolute proof unfortunately of specific infection in the case of father or mother.

The reason is that minute information could not be obtained which at the same time should be absolutely reliable regarding a person so long dead. The father was a loose liver—that is known. We cannot with certainty include syphilis, but at the same time it cannot be excluded.

The boy did not present any absolutely typical signs of congenital syphilis; he had, however, a large head, with prominent parietal eminences, and he had irregular teeth. Many cases of juvenile general paralysis show no signs of syphilis on their body, though they are proved to be the offspring of syphilitic parents. The boy himself had never acquired syphilis. My own belief is that the boy was a juvenile general paralytic, the offspring of two people the subjects of general paralysis, who had in their earlier days acquired a specific infection.

(1) A paper read at the Spring Meeting of the Northern and Midland Division at Storthes Hall, April 30th, 1908.

A Case of Cretinism. (1) By GUY R. EAST, Assistant Medical Officer, Northumberland County Asylum.

S. B—, of no occupation, was born in co. Durham forty years ago and came under observation at the Northumberland County Asylum in March, 1908.

His certificate reads:

He states that his age is 45. He cannot read or tell the time, or

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count beyond twelve, though he was taught. His whole conduct is not that of an adult, nor is it developed as that of a young child. His speech and appearance are those of a cretin.

His intellectual powers are undeveloped in proportion to his age. He is childish and is incapable of answering the simplest question in spelling and arithmetic. He is mischievous and subject to fits of temper, and is quite incapable of managing his own affairs.

The family history is negative. None of the patient's relatives suffered from goitre. The parents were in no way related to each other previous to marriage: the father died of "some internal complaint" at the age of 57, the mother died of senile decay aged 78. Seven children were born, of which four died in infancy, but inquiries elicit the fact that none of these presented signs of cretinism.

Regarding his personal history, the goitre appeared during his first year, and since then has gradually increased in size. At the age of two he was seized with convulsions, and from that date onwards did not develop mentally, though endeavours were made to teach him. All his life he has required attention like a child, and has been incapable of learning a trade or useful occupation. During childhood he was never treated with thyroid extract.

His condition on admission was as follows:

He stands 4 ft. 9 in. and weighs 8 st. 2 lb. The relatively normal size of the head contrasts with the dwarfish body. He has a degraded type of face—a receding forehead, eyebrows absent, eyes set rather widely apart, bridge of nose depressed with thickened alæ nasi, a prominent chin, a wide mouth with broad, thick lips, hair thin and brittle. The limbs and body are short and stunted, whilst there is some enlargement of epiphyses of knees and elbows. The long bones are generally shortened with the exception of the clavicle. There is heaviness in the limbs and movements are sluggish and clumsy. The hands are stunted and undeveloped. The thyroid gland is hypertrophied, the enlargement being chiefly confined to the right lobe, and is about the size of a man's fist; there is also some slight swelling of left lobe. The tumour is somewhat elastic to touch, is freely movable, quite painless, rises and falls with deglutition and in no way hampers respiration. The increased vascular supply to the gland is conspicuous on account of the dilated thyroid veins. There is a well-marked bruit on auscultation. The recurrent laryngeal nerve is evidently implicated, resulting in alteration of voice, which is harsh and croaking.

The temperature is subnormal, 96·4° F.

The tongue is hypertrophied and indented, teeth mostly carious, palate high-arched. He has a good appetite, but the bowels are obstinately constipated and require the frequent administration of aperients.

The heart-sounds are faint, but a tricuspid regurgitant murmur is audible at the lower end of sternum.

The pulse is weak but regular, the rate being 48 per minute. Examination of the blood reveals a reduction in the quantity of hæmoglobin, this diminution being about 30 *per cent.*, otherwise the blood exhibits little or no change. The liability to catching cold is one of the characteristics of cretinism, and this man is no exception, as he is acutely

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sensitive to any change in temperature and at present has an obstinate cough.

It may be mentioned in passing that these patients usually succumb to pulmonary complications.

The total quantity of urine passed during twenty-four hours averages sixty-five ounces; specific gravity, 1025, acid in reaction contains no sugar or albumen, but there is an increase in the amount of urea excreted. This increase may be in part accounted for by the fact that lack of perspiration is a constant feature in cretinism, and in this way the excretion of urea is augmented.

The skin generally is dry, harsh, and thickened; It has a waxy, lemon tinge. The sweat and sebaceous secretions are absent. The nails are fragile and striated.

One of the most striking points in the nervous system has already been mentioned, namely, the abnormal sensitiveness to cold, the patient having to be supplied with extra under-clothing to promote warmth and comfort. The muscular nutrition is unimpaired whilst the motor functions, beyond clumsiness in movement, call for no further comment. Both the superficial and deep reflexes are diminished. The pupils react normally to light and accommodation.

The intellectual state is marked by apathetic enfeeblement, and cerebral torpor reveals itself in sluggish mentation, defective memory, slow speech, and lethargic movements. He is quite indifferent to his surroundings, never speaks to his fellow patients, nor attempts to work or amuse himself. The simplest questions are beyond his intelligence; he has no idea of time or place. He is childishly pleased with the slightest attention given to him. Is slovenly and untidy in dress, but has been educated to cleanly habits. He is indolent, both mentally and physically, having no muscular energy, and is promptly fatigued with the least continuous effort. He sleeps rather heavily and is with difficulty roused.

The patient has been under treatment with thyroid extract, this being administered in tabloid form. Starting with a dose of six grains daily this has been gradually increased until at the present time he is taking twenty grains *per diem*.

There has been a loss in body-weight amounting to 5 lb. The temperature has risen from 96·4 to 98·4° F. There is an increase in the pulse-rate, which on admission was 48 and is at present 80. The percentage of hæmoglobin present in the blood has increased 5 *per cent.*, whilst the amount of urea excreted has been slightly augmented. The skin remains inactive and the patient still complains of feeling cold. He has an excellent appetite, and the action of the bowels is regular.

As yet there is no alteration in his mental state, this condition being in all probability beyond improvement. Although not reported as epileptic, a few days ago patient had a typical seizure. This was evidently not his first attack, as just previous to it he informed an attendant that "he was going to have a fit."

During the whole time patient has been undergoing thyroid treatment he has been kept continuously in bed.

Regarding the manner in which defective thyroidation affects the trophic apparatus and induces mucoid deposits, two general points of

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view depending on opposite physiological hypotheses are maintained. Many believe that the normal thyroid elaborates some substance indispensable to the proper action of the nervous system. Others maintain that the thyroid eliminates certain harmful elements in the blood, and in confirmation of this statement attention must be directed to two main points.

As previously stated, since the administration of thyroid extract to this patient, there has been a slight increase in the percentage of hæmoglobin present in the blood together with an increase in the output of urea excreted. This fact seems to prove the theory that the thyroid gland normally excretes a substance which, while aiding the oxygen-carrying power of the hæmoglobin, at the same time assists in the removal of toxic agents from the blood.

The conditions of origin of sporadic cretinism are obscure. Some authorities attribute it to parental consanguinity, others to alcoholism and syphilitic disease, but in the case under notice there is a point of importance. It has been observed that when a woman has frequent pregnancies this is often followed by an interval of sterility of some years' duration, and as she approaches the menopause fertility is again established. A child born at this time is usually smaller and not so well developed as the other members of the family. I am acquainted with two families in which the youngest child in both exhibits well-marked achondroplasia, the parental stock being healthy. I have a similar history in this case; the patient, a seventh child, was born when his mother was forty-three years of age, ten years having elapsed since her last pregnancy.

It is said that the offspring of two goitrous parents is invariably a cretin who may or may not be goitrous. In the goitrous cretins the thyroid disease may appear at any period of life, and acts, then, exactly as does spontaneous myxœdema or operative myxœdema, to stunt growth and stop mental development. The distribution of endemic cretinism is identical with that of endemic goitrous disease, and is probably due to some obscure telluric cause. A distinction between endemic cretins and other myxœdemic patients is the goitrous enlargement. This may be only a difference of degree, because the cystic degeneration and interstitial hypertrophy of a goitrous enlargement of the thyroid is destructive in character and effect, and in consequence myxœdema and mental disturbances will be developed proportionately to the functional inactivity of the thyroid. When the thyroid is entirely

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wanting as in non-goitrous congenital cretins, or destroyed as in the present case, the myxœdema is correspondingly intense and the mental degeneration proportionately developed. Sporadic or congenital cretinism appears to be of two distinct kinds. The first in which a child at birth is found to present the most marked cretinous changes, being also invariably born dead; the second, in which the child is born apparently quite normal, but at a variable period, from a few weeks to a few years after birth, begins to show symptoms of commencing cretinism which soon reach a maximum. The skull is full behind, contracted and narrow in front; often the fontanelles remain unclosed. The features are flabby and thickened, nose snubbed, lips thick, eyelids swollen and drooping, mouth open and the tongue hypertrophied. Dentition is delayed and the teeth decay early, the neck is short and lipomatous, the abdomen swollen, the limbs dwarfed and crooked, the skin infiltrated and inactive. The thyroid is atrophied or absent; the mental condition is usually one of idiocy. It is in this type of case that thyroid treatment is most beneficial.

Though cretins are comparatively rare in asylum populations, in certain mountainous regions throughout the world the disease is endemic. While on this point it may be advantageously remembered that the cause is distinctly hereditary in these districts where it largely prevails, and the birth of cretinous children can be avoided by emigration from affected districts. It is perfectly conceivable that insanitary or climatic conditions, which appear to determine the incidence of goitre or cretinism in these cases, do actually bring about one or more of these affections in certain instances. Professor Lebour, who has conducted the strictest inquiry into the geological distribution of this disorder, states that the greatest proportion of cretins are to be found in carboniferous limestone districts. The rarity of cretinism in asylums is in no small measure to be accounted for by the fact that the majority die in infancy or childhood, few—if untreated—reaching manhood.

(1) A paper read at Spring Meeting of the Northern and Midland Division at Starthes Hall, April 30th, 1908.

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Recent Medico-Legal Cases.

REPORTED BY DR. MERCIER.

[The Editors request that members will oblige by sending full newspaper reports of all cases of interest as published by the local press at the time of the assizes.]

Re WILLIAM HENRY KING: AN INQUISITION IN LUNACY.

THIS inquiry, which lasted five days, and for the report of which I am indebted to Dr. Percy Smith, exhibits several features of interest.

The subject of the inquiry, a wealthy gentleman, some 63 years of age, had been epileptic from the age of six. His weakness of mind was recognised by his father, by whom a settlement of the property of the respondent was procured to be made. In 1881 the respondent married, and during the whole of his married life his income, amounting to between £3,000 to £4,000 a year, was administered by his wife, he being allowed for his own use only £1 per week. During his married life he never drew a cheque or even wrote a letter. In June, 1907, the wife died, and the wife of the respondent's brother, the only relative then available, made arrangements that the defendant should be cared for by two attendants, to one of whom the respondent took a dislike, complaining of ill-treatment by him, but there was no evidence to justify this complaint. The complaint was made, however, and seems to have reached the ears of some neighbours—members, in common with the respondent, of the Society of Friends, who considered it their duty to interfere and to protect the respondent from a danger which was wholly imaginary, and existed in their minds alone, of being sent to an asylum. Without any communication with the relatives or with the trustees of the respondent, these two well-meaning but misguided gentlemen, Messrs. Harold Jackson and Mason, visited the defendant, accompanied by a solicitor named Tilly of their own choosing, and by Dr. Roberts, the ordinary medical attendant of the respondent, and Dr. Harrison. The medical men made a certificate that the respondent was capable of managing his

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own affairs and that he fully understood the document which he had that day signed. The document was in effect a power appointing Messrs. Jackson and Tilly as his attorneys, and authorising them in the first instance to turn the two attendants out of the house, and, beyond this, to manage his affairs generally and conduct litigation on his behalf. Under this power of attorney, the gentleman, Mr. Davies, who had for many years managed the respondent's affairs and who, with three others, had signed all his cheques, was served with notice that henceforward respondent would sign all cheques himself, and demands were made on Mr. Davies to give up all keys, accounts, shares, and vouchers, and a policeman was stationed outside the house to see that respondent was not "molested." The half-brother of the respondent meantime returned from America and went to see respondent, but access was denied him. Many acts of insanity—some of them of dangerous violence on the part of the respondent—were proved by different witnesses. Among other things it was proved that he consulted his wife on her deathbed as to the choice of her successor, and had spoken about marrying one or other of his servants.

Dr. Percy Smith had examined the respondent, who did not understand the nature or object of the inquisition, but thought it had reference to the way his brother had treated him. When asked if he had signed the power of attorney, the respondent replied, "I have no question to put." He was unable to do sums in multiplication and addition that were set to him. Summarising, Dr. Percy Smith considered the respondent weak-minded, and suffering from loss of memory of important events, from unreasoning hostility to his friends, from inability to grasp business matters, from delusions, and that he had a childish reliance on his attendant. He was not capable of managing himself or his affairs.

Dr. Bedford Pierce had found the respondent had a fair knowledge of how his money was obtained, and made some shrewd comments with respect to his investments. Respondent made, however, a number of misstatements, contradicted himself, and denied that he had signed the power of attorney. Witness, as a result of his interview, considered respondent decidedly enfeebled in mind, but not sufficiently so to be incapable of managing himself or his affairs. But having

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heard the evidence in court, he admitted that he had modified this conclusion, and now considered him not able to manage his own affairs.

The case for the defence was then taken, and as is customary, plenty of witnesses were produced to testify that they had not observed anything unusual about the conduct of the respondent. Among others, the witness-box was occupied by Mr. Tilly, the solicitor who prepared the power of attorney, and his brother. During the evidence of one of the brothers a dramatic incident occurred. An anonymous telegram was received by the cross-examining counsel, prompting counsel to inquire about a will. The hint was followed up, and admissions were drawn from the witness that during the administration of the respondent's affairs by the self-appointed committee, and during the term of office of the attendant Wade, whom the committee had appointed to take care of the respondent, respondent had made a will. The will was called for, and after some demur was produced in court, and a very remarkable document it proved to be. The draft of the will was prepared by Wade, the attendant, who at that time had been for three months attending on the respondent. Under the will the executors to his previous wills were displaced, and in lieu of them the members of the self-appointed committee were associated with the attendant Wade as executors, and the will gave to each executor a legacy of £1,000. Further, Mr. H. Jackson, Dr. Roberts, Mr. Mason, and Mr. Tilly, the members of the committee, were to have each a second £1,000, while the attendant Wade was left a quantity of furniture, and the house and grounds were to be sold, and to go, with the residue of the estate, after providing legacies for charitable objects, to the trustees for their own use. Counsel for the respondent submitted that a more sensible or proper will could not have been made.

Out of a jury of nineteen, one was found who considered that the respondent was of sound mind, and capable of managing himself and his affairs. The other eighteen found a verdict that he was of unsound mind, so as to be incapable of managing his affairs, but was capable of managing himself and not dangerous to others.

It should be stated that, apart from Wade and Tilly, the members of the managing committee seem to have known

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nothing at all about the will until it was mentioned in Court. They seem to have acted perfectly *bonâ fide*, under the impression that the respondent was being ill-used and neglected by his family, and that the bruises that he had received by falls in his epileptic fits were due to the violence of his attendants. They acted perfectly *bonâ fide*, but they acted hastily, injudiciously, on *ex parte*, untrustworthy, and untested evidence, and without regard to the interests or feelings of the relatives and natural protectors of the respondent. Under the circumstances, they must consider themselves fortunate in merely having their imprudence exposed in Court, without having to bear any of the costs of an unsuccessful action at law.

Occasional Notes.

Special Education in Mental Diseases.

The Medico-Psychological Association has for years past made attempts to advance the education of medical men in mental diseases. The extension of lectureships and the compulsory study of this subject as a part of the medical curriculum have been greatly promoted by these efforts. The attempt to give special education to those entering asylum service by means of a special examination and certificate, although successful to a certain point, has fallen far short of the usefulness that was anticipated, and the time has now arrived when consideration might well be given to the best method of improving or extending the teaching and examination of medical men intending to devote themselves to this special branch of medicine.

That the certificate of the Medico-Psychological Association has failed to attract a large number of candidates is due mainly to the fact that it was based on a very limited amount of experience and study of mental diseases. The holder of this certificate, in applying for an asylum post, was not so superior in qualification as to ensure his selection, and since the compulsory study of mental diseases has been established, the relative value of the certificate has been still further reduced.

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Until some examining body has undertaken to confer a degree in mental diseases, it would seem to be advisable to make the Medico-Psychological examination more valuable by conferring it only on medical men who, subsequent to their qualification, had resided and worked in an asylum for a definite period. If, in addition to this, definite instruction by lectures on the pathology of mental diseases could be arranged as a part of the curriculum for the examination, a certificate could be given which would entitle the bearer to special consideration in applying for asylum appointments, or for any post demanding knowledge of mental disease.

Lectureships on the pathology of insanity in connection with universities and the pathological laboratories of asylums are already under consideration, and would thus at once find a definite reason for attracting students. The certificate of the Association would probably pave the way to the granting of a diploma in mental science by one or more of the universities, similar to that granted in public health. The need for such a diploma has been frequently discussed, and attention was drawn to the subject in a recent article in this journal. Any action of the Medico-Psychological Association in promoting these ends will certainly tend to enhance the standing and reputation of the specialty.

Female Suffrage.

The female suffrage question would not appear at first sight to be of interest to the medico-psychologist, but it involves such a far-reaching change in the habits of the larger half of the community that it demands consideration from all who are concerned with the nervous and mental health of the nation.

Excitement from politics, or rather from party feeling, is not frequently recorded in the statistics of the causation of insanity. Like religious excitement, however, it plays a part in some cases of mental breakdown, and although it may be an additional interest in life to many, it is an extra stress to individuals of an emotional type. Women, as a rule, are more emotional than men, especially so during the reproductive period, and at the times (during pregnancy, etc.) when this function is in greatest activity. It is certain that emotional

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stress should be avoided under such conditions, as being injurious both to the mother and her offspring.

The example of the suffragettes is not to be taken as a criterion of the probable result of participation in politics by women in England. The outrageous conduct of the suffragettes is due in the main to the necessity of parties to yield to the fads of any persons who will make sufficient noise. The suffragettes act on a reasoned principle, and although their feminine emotionality carries them to greater lengths of misconduct than men would arrive at, it is not a proof that the general body of women would be so uncontrolled in their political action.

The trend of party politics, as a recent writer in the *Nineteenth Century* has ably demonstrated, is to engineer excitement in the constituencies so as to reduce them to the level of an emotional crowd. This tendency is likely to increase rather than to diminish, and the emotional stress of party politics will become greater to those taking part in it.

The medico-psychologists as such need not consider the right or wrong of giving votes to women, but it would seem that they should consider whether it is not advisable to direct public attention to the possible ill-results, and to raise the question whether young marriageable women and married women should not be shielded from this possible danger to the national health.

The Asylum Workers' Association.

The Annual Meeting of the above-named Association is principally noteworthy from the announcement of the retirement of Dr. Shuttleworth from the editorship of *Asylum News.* The services which Dr. Shuttleworth has rendered to the Association from its very incipiency are very great indeed; his aid not only conduced greatly to the success of the Association, but principally helped to guide its activities into the admirable channels in which they now run. The Association thus avoided taking the form of spurious unionism, which the chairman (Sir W. J. Collins) described as seeking to organise all employees against the authorities that employ them. This was the great danger in the infancy of the Association, and that it

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has been avoided is mainly due to Dr. Shuttleworth's foresight.

The report shows that the increase in membership has received a check, but this is probably temporary, and in all other respects the work of the year has been satisfactory.

The Homes of Rest Fund is in great need of increased support owing to the advance in the number of cases aided during the year. The subscription by the members of the Association of sixpence per year would satisfactorily meet the need, but some outside help would be very welcome.

Members of the Medico-Psychological Association would be doing good service in directing attention to this useful form of mutual self-help.

Statistics.

Statistics of lunacy have been compiled in English asylums over an extensive period, and should afford valuable material from which to draw conclusions in regard to insanity at the present and past periods. Hitherto, however, little decisive information has been derived from these statistics in regard to the character of the occurring lunacy and the results of treatment.

The recovery rate during the period in which the most important advances in treatment have been made shows no advance, but rather the reverse, although the death-rate has shown considerable diminution.

Is it possible that these statistics really point to the conclusion that while modern treatment preserves life, it fails in promoting mental recovery, or is this apparent anomaly due, as has been often suggested, to the different class of cases admitted to asylums in recent years ?

Is it not possible by careful examination of the statistics to obtain some definite and reliable information in regard to the classes of insane persons admitted at the various periods, in regard to age, previous duration of insanity, causation and forms of insanity, etc., together with the results of treatment in these various classes ?

Such analyses of the statistics have been made in one or two asylums, but to be satisfactory should be made on a much

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larger scale, and on carefully considered principles. Is it not possible that a committee of the Association appointed for such a purpose might devise a plan for the analysis of these statistics, which should not leave our asylums exposed to the above crude conclusion, that while the lives of the insane are prolonged, their mental disorder is not correspondingly benefited?

The Conolly Norman Memorial.

An influential meeting of medical and other friends of the late Dr. Conolly Norman, held at the Royal College of Surgeons, Dublin, decided on promoting a memorial, to take the form of an after-care association bearing his name. If the funds collected admit of its being done, it is proposed also to present Dr. Norman's portrait to the Royal College of Physicians of Dublin, of which he was the Vice-President.

The after-care association would be a most appropriate memorial of Dr. Norman's work on behalf of the insane, and it is to be hoped that the funds collected will be sufficient to ensure its being carried on in a satisfactory manner.

The Honorary Treasurers of the fund are Dr. Dawson, of Farnham House, Finglas, and J. R. O'Connell, Esq., LL.D., of 34, Kildare Street, Dublin.

Part II.—Reviews.

Las Nuevas Teorias de la Criminalidad. By C. Bernaldo de Quiros. Madrid: Hijos de Reus, 1908. Pp. 258, 8vo.

Following up his excellent little book on the special features of Spanish criminality, the author now puts forward a treatise on the wider aspects of criminology with reference to the most recent theories. It is based on an earlier and slighter work published ten years ago. Dr. Näcke writes an introduction in which he remarks that Señor Bernaldo de Quiros has here produced a book which is a complete summary and an impartial criticism of the new theories of criminality, worthy to be translated into all the chief languages of Europe. Näcke is so energetic an antagonist of Lombroso that his approval is at all

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events proof that the book is not too partial to the famous Turin professor. It is, however, interesting to see that Näcke here admits that Lombroso has at least performed two services: he has taught us to occupy ourselves with the personality of the criminal and not merely with his criminal act, and in the second place he has made admirable suggestions alike for the prophylaxis of crime and the treatment of the criminal. These surely are no mean services.

Bernaldo de Quiros divides his work into three long chapters: the first on criminology, the second on penal law and penal science, the third on scientific police methods, the chapters being divided and subdivided in a clear and methodical manner. In the first chapter, after tracing the history of criminology, he deals with the three great innovators, Lombroso, Ferri, and Garofolo, and discusses the main criminological theories, anthropological (*i.e.*, atavistic, degenerative, and pathological) and sociological. The second chapter, after setting forth the three main channels of influence in penal matters, the traditional current, the movement for reform (Liszt, Hamel, etc.), and the radical movement for the abolition of punishment except in so far as it is necessary for the treatment of the criminal and the protection of society, discusses in detail the various questions involved in the treatment of the criminal. The third chapter, which is much the shortest, is concerned with the methods of identification, etc.

The author concludes that the new movement for the study of the criminal unquestionably represents a real conquest of the scientific spirit; its simultaneous and independent appearance thirty years ago in three different countries (as represented by Lombroso, Benedikt, and Maudsley) sufficed to show that it was a natural and spontaneous movement, and it is now becoming definitely accepted. Lombroso's name is properly associated with this movement, as Beccaria's name was with the earlier criminological movement, not on account of any special value in Lombroso's writings, but because of "the fertility of thought in this field which he has produced throughout the civilised world"; it is owing to Lombroso's initiative that the vast army of workers now in the field, even those most opposed to his special ideas, have been set to work. In regard to the treatment of the criminal, the author believes that the day of quantitative punishments is nearly over, and that in the future qualitative measures will prevail; this is the outcome of a movement which began with Beccaria. Society must exercise a public guardianship over criminals in which punishment, as such, has no place. The question of responsibility will gradually cease to have any significance; whether a criminal's action was due to free will or determination makes not the slightest difference in the need for controlling and treating him, any more than it does in the case of a diseased person.

Bernaldo de Quiros writes with a wide knowledge of the literature of his subject and in a calm and impartial spirit. He naturally devotes special attention to conditions in his own country, and he shows that, just as Spaniards were the pioneers in the rational treatment of the insane six centuries ago, so they have also to-day been pioneers in advocating the rational treatment of criminals. Dorado, whose name is still almost unknown in England, deserves special mention in this connection.

HAVELOCK ELLIS.

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The Psychology of Dementia Præcox [*Über die Psychologie der Dementia Præcox*]. By C. G. JUNG. Halle: Carl Marhold, 1907.

This book is the result of an attempt to apply the psychological principles worked out by Freud for hysteria and the obsession-neuroses to the sphere of dementia præcox. The investigation is carried considerably deeper than the purely clinical work of Kraepelin, and deeper even than the method which Janet has applied to hysteria and psychasthenia. The latter really attempts little more than to determine the mode of reaction, what we may call the "form" of the mentality, whereas Jung seeks to explain the actual content of the hallucinations, speech, actions, etc.

The keynote of the work is its strenuous opposition to Neisser's view that the laws of normal thought have no application in the mind of the patient suffering from dementia præcox. The author endeavours to show that the psychological mechanisms at work in these two cases differ only in degree. There can be no question that the realisation of the truth of this point of view, together with recognition of the fact that chance plays no part in the words and actions of a lunatic, is of enormous importance for the future of psychiatry.

Jung's main thesis is that the symptoms of dementia præcox are due to the existence of "complexes" or systems of ideas possessing a strong emotional tone. It will be seen that this corresponds precisely to Freud's conception of the nature of hysteria, and a chapter of the present book is in fact devoted to a consideration of the numerous points of resemblance between hysteria and dementia præcox. But whereas the former is mobile and removable the latter tends to be fixed and progressive. The differences between the two diseases may be summed up as follows: In hysteria the complex leads an independent existence and lessens the amount of mental energy at the disposal of the personality, but sufficient remains to enable the individual to adapt himself to the needs of his environment. In dementia præcox, on the other hand, the complexes ultimately dominate and distort the personality, so that the individual and his environment finally become altogether incongruous.

In the third and fourth chapters the effect of the complexes on the personality is worked out in detail, and the origin of neologisms, stereotypes, negativism, etc., is thereby explained. Considerable use is made of association experiments, which are already familiar to English readers through Jung's papers in *Brain* and the *Journal of Abnormal Psychology*.

The final chapter contains the detailed analysis of a case of paranoid dementia præcox, as an illustration of the method of research employed.

The whole work is extraordinarily illuminating. It is difficult to predict to what extent Jung's avowedly tentative conclusions will ultimately be substantiated, but that they point to an extremely fruitful line of research cannot be doubted. They have been subjected to considerable criticism on account of their dependence upon certain of Freud's doctrines, which have not been generally accepted. But the author has carefully defined his precise relation to Freud, and points out that he has only adopted well-grounded psychological principles.

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In any case the validity of Jung's work is by no means entirely dependent upon that of Freud. It may be confidently asserted that the book constitutes one of the most considerable contributions to the progress of psychiatry which has been made of recent years.

BERNARD HART.

The Intermittent Psychoses [*Les Folies Intermittentes*]. *Maniacal Depressive Insanity.* (*La Psychore Maniaque Depressive*). By Drs. DENNY, Physician to the Hospital of Salpetiere, and P. CAMUS, House-Physician of the hospitals of Paris. One vol., 96 pp., illustrated by ten photographs (*actualités médicales*). Paris: Baillière.

The subject is dealt with in eight chapters, the first of which relates to the historical interest of the disease, the second and third are taken up with the symptomatology and clinical types. In the next two chapters diagnosis and prognosis are dealt with, while in the remaining three the ætiology, medico-legal aspect, and treatment of the disease are introduced. The authors adhere wholly to Kraepelin's views. The book is interesting, but the differential diagnosis of the disease seems to us somewhat tedious and hardly likely to be of use in practice.

The evolution of the term "maniacal depressive insanity" is traced to Falret, who in 1854 described under "folie circulaire" a disease made up of a succession of maniacal and melancholic attacks, succeeded by a lucid interval of varying duration. Baillarger at the same time described a disease which he called "folie a double forme." This disease corresponded exactly with Falret's description except for the fact that Baillarger omitted the "lucid interval"; the views of neither of these writers were received with any enthusiasm. Kraepelin in 1899 made a new classification of mental diseases, and under the term "maniacal depressive insanity" included the psychoses formerly called intermittent, periodical, circular, etc. The writers define the disease as constitutional psychoses, essentially hereditary, characterised by the repetition, the alternation, the juxtaposition, or the co-existence of the states of excitement and depression. Pure mania and pure melancholia are very rare. The symptoms are divided under the states of mania and melancholia and these two conditions mixed. The predominant symptoms are disorders of the affections, of voluntary movement, and of the intelligence. The personality of the individual is changed; the affections may be increased or diminished. Inhibition of the higher psychic functions, that is of the will, is present. All voluntary movement is difficult. In the maniacal stage there is a great flow of words but a poverty in thought. A recitation may be correctly done, but the action is reflex and automatic. No definite aim characterises the movements; everything is touched but nothing grasped. In the melancholic type there is seen marked inhibition of thought, certainly of speech. It is apparently too much trouble to speak, to move, or to walk. Stupor may supervene, in which case all response to outward stimuli is lost. Consciousness of their surroundings remains throughout. Under accessory symptoms are included confusion, delusions of wealth, etc.; illusions are not uncommon, hallucinations rare. There are certain distinctive physical

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signs, but none pathognomonic. Analgesia when present is of psychic rather than pathological origin. In the depressed type the respirations are shallow, while in the maniacal stage they are deep. Acceleration of the pulse-rate is by no means uniform, even in the acutely maniacal condition. The blood changes have been found to be not sufficiently uniform to be convincing; the same remark applies to the urine. Weygandt finds that the melancholic type gains weight while the maniacal emaciates. Weeping is rarely seen. Salivation, reflexly produced by the constant movement of the jaws, produces an abnormal amount of expectoration. The clinical types are described as maniacal, melancholic, and mixed, the latter being that in which the phenomena of excitement and depression co-exist. It is the fusion of the two former states. There are many varieties of this type. Grief is readily turned into anger, joy is always of a morbid type. Excitement is often accompanied by anger or sorrow, and may suddenly change to joy. This class of patient is a source of constant trouble; they make groundless complaints, are mischievous, spiteful and quarrelsome. The mixed form of the disease may be considered the links of a long chain, at either end of which is placed melancholia and mania. The onset of maniacal depressive insanity is always preceded by an initial stage of mild depression, which ultimately becomes the stage of depression proper, while the subsequent stage of mania is more or less abruptly entered upon, but is frequently ushered in by a "herald sign," usually represented by a visionary hallucination. The length of the attacks vary from a few hours to months or years, becoming longer as the disease progresses. The disease persists throughout life. The so-called lucid intervals have confused the profession at large; they are part of the disease. A recurrence of the excited or depressed stage is certain. The disease is never followed by dementia. Neurasthenia, the authors agree, is a much-abused term. Lassitude, weariness, lack of energy are common to both diseases. The points to rely on are: a history of previous mental disturbance, an alteration in character, and hereditary influence. All indicate maniacal depressive insanity, and especially if the character of the patient gradually changes from depression to light-heartedness and a general feeling of *bien-être* is present. The melancholia of involution differs from the disease under discussion in that in the former the grief is acute. Agitation and unceasing restlessness are marked. The differential diagnosis is discussed at considerable length, but we think that in many cases the points to rely on would hardly be serviceable in a practical examination. Finally, however, a single symptom must not be considered, but rather an opinion formed from a preponderance of symptoms on one side or the other. The disease is more common in women than in men. In the author's experience it forms 17·5 *per cent.* of the asylum population. A medico-legal point is raised as to the responsibility of the individual during the lucid interval. The opinion is given that a limited responsibility exists only. The treatment of the disease is merely symptomatic; no known drug will shorten the disease a single hour.

COLIN MCDOWALL.

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Recent Therapeutics in Nervous Diseases [*Les Therapeutiques recentes dans les maladies nerveuses*]. By Drs. LANNOIS and POROT, of Lyon. 1 vol., 96 pp. (*actualités médicales*). Paris: Baillière.

The authors have written an epitome of modern therapeutic measures in relation to nervous diseases. The medical and surgical aspects are dealt with. They indicate the best treatment and give their reasons for whatever selection they make. Very definite views are held regarding the curability of general paralysis by anti-specific treatment. They severely criticise Leredde in his assertion that mercury will cure general paralysis and tabes dorsalis. No case of cure has ever been produced that was undoubtedly either of these two diseases. The book is good reading and the opinions expressed are clearly stated.

Lumbar puncture should be more generally employed than it is at the present time. As an aid to diagnosis there is no contra-indication. As a curative agent it should never be used in cerebral or cerebellar tumour or brain abscess, or in a person the subject of advanced arterio-sclerotic changes. In tubercular meningitis it is more useful as a means of diagnosis and may be used to relieve pressure as a palliative.

Lumbar puncture repeatedly applied together with hot baths is the best treatment of cerebro-spinal meningitis or a meningitis the result of a pneumococcal or post-febrile infection. Benefit has been obtained in hæmorrhagic pachymeningitis, and as a means of diagnosis it is of use in traumatic affections of the meninges. Regarding hydrocephalus, lumbar puncture should only be used in those cases which are inflammatory in origin. In those cases in which there is evidence of pressure symptoms and a palliative is urgently required lumbar puncture may be exceptionally employed. In general paralysis it is useless. Its use in lunacy has been limited and so far unproductive of good results. In head and spinal injuries if coma is present the authors advocate immediate puncture and the repetition of the operation till the fluid is not blood-stained. Subarachnoid injections are not permissible on account of their danger. Epidural injections, that is, insertion into the sacral canal, composed of cocaine or stovaine, are occasionally used to relieve pain. The process repeatedly applied has been known to cure incontinence of urine of nervous origin.

Tic is a term frequently misapplied. The writers describe it as a psychomotor disease. Its prognosis formerly was bad, owing to the co-existing mental condition. The best treatment and that which possesses further possibilities is a system of re-education. Methodical exercises are gone through in which the affected muscles are kept at rest by an increased mental effort. The system must be under the personal care of a competent medical man, and if patience and tact are combined a good result can be looked for. The treatment of syphilis is reviewed at some length. The intra-muscular injection of mercury is regarded as the most useful and least inconvenient. Chorea is treated by gradually increasing doses of arsenic. The best method of administering the drug is in butter. The advantage claimed for this method is that the alimentary system is not upset. The manufacture of the mixture is minutely given. For chronic nerve lesions, accom-

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panied by pain, which do not resolve under medicinal treatment, the subcutaneous injection of air followed by vigorous massage is strongly recommended. No inflammatory reaction results and the cure is due entirely to mechanical means.

COLIN MCDOWALL.

Part III.—Epitome of Current Literature.

1. Physiological Psychology.

Freud's Doctrine of the Sexual Ætiology of Neuroses [*Kurze Bermerkungen zu den Freud'schen Lehre über die sexuelle Ætiologie der Neurosen*]. (*Neurolog. Clbtt., October*, 1907.) *Friedländer, A.*

The author, recognising that Freud's teaching has to-day become "actual," and that his followers have accomplished much fruitful work, has devoted special attention to Freud's doctrine and methods, and himself to some extent practised the psycho-analytic method. He here summarises his conclusions. Freud draws the circle of the sexual causation of neuroses far too widely. There are cases of hysteria of purely sexual origin; these belong to the psychic traumatism type established by Brewer and Freud, and by them investigated with such subtle skill; in these cases suppressed emotion lies at the core of the condition, and the neuro-psychic symptoms are a defence. Symptomatologically, indeed, every hysteria is an emotion-neurosis. The psychic traumatism, however, is by no means always sexual. The psycho-analytic method of treatment is not suited for all cases, and not always desirable when it involves detailed investigation of sexual perversions, more especially as other methods of treatment also prove effectual.

HAVELOCK ELLIS.

Classification of the Homosexual [*Einteilung der Homosexuellen*]. (*Allg. Zt. f. Psychiat., Bd.* 65, 1908, *p.* 109.) *Näcke, P.*

Näcke remarks that there is much ignorance concerning sexual inversion as such cases seldom come before the alienist, though somewhat more often to the specialist in nervous disorders; and as the cases thus seen are usually of an extremely pathological type they are not typical of ordinary inversion, the subjects of which rarely consider that they need medical treatment. To base a knowledge of homosexuality on cases seen in an asylum is as unreasonable as to base a knowledge of anthropology on abnormal or deformed individuals. He has himself given special attention to this subject in recent years, both inside and outside the asylum.

Näcke is at many points in agreement with Hirschfeld (who has a vast knowledge of such cases), and considers that homosexuality is "no vice, but perhaps even a normal and rarer deviation of the sexual impulse,

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apparently not in itself pathological." He considers that it is always congenital, but that there is seldom any hereditary element (this latter conclusion, however, is due to the difficulty of investigation, and there is evidence against Näcke's view), though there may be a neuropathic heredity. There is no unusual prevalence of stigmata of degeneration. Sometimes the perversion begins to manifest itself in childhood; sometimes it first appears late in life, but in these latter cases, by Krafft-Ebing termed "tardive," the condition is not really acquired; there must be a congenital predisposition. Seduction or masturbation, it seems probable, never alone suffices to produce inversion. The real causation of the condition is obscure, but Näcke leans to the view (which is that of Hirschfeld and many others) that it largely rests on the general anatomical and psychic bisexuality more or less latent in all persons.

Näcke distinguishes between homosexual persons who are exclusively attracted to individuals of the same sex, and bisexual persons who are attracted to persons of either sex. The novel point of his classification is, however, the attempt to place it on a chronological basis, according to the period of life at which the condition appears: (1) The cases manifesting inversion in childhood; these Näcke considers a small minority, and he believes they are usually of feminine type, but admits that more knowledge is required. (2) The cases appearing at puberty; these are the majority. (3) The "tardive" cases, appearing in adult or even old age; this is a very small group, and still very imperfectly known. Näcke further subdivides the second and third groups according as the condition is temporary, periodical, or continuous. HAVELOCK ELLIS.

Organic Changes and Feeling. (*Amer. Journ. Psychol., October,* 1906.) *Shepard, J. F.*

The important but vexed question of the relationship of psychic changes to organic changes has been carefully worked out in the Psychological Laboratory of Michigan University during three years and is here elaborately recorded. Shepard scarcely settles the question, but he shows how complicated the relationship is.

The experiments were planned with a view to test Wundt's tri-dimensional theory of feelings. The processes studied were change in the volume of the hand, in the volume of the brain, in the heart-rate, in depth and rate of breathing, and in plethysmographic pulse in brain and hand. For the brain experiments a subject was secured from whom a portion of skull covering the right Rolandic region had been removed two years before; the capsule of a tambour, covered with thin rubber and fitted with a piece of cork to dip into the pulsating spot, was firmly attached and connected by a flexible tube with a delicate recorder, the subject being kept in a dark room and the recording apparatus in another room. In this case the subject was a labourer; most of the experiments were carried out on people more or less familiar with experimental methods.

Shepard concludes, as a result of his experiments, that feelings cannot be classified on the basis of vaso-motor and heart-rate changes There is no reverse relation between the accompaniments of agreeable ness and disagreeableness, much less three such pairs of reactions

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Agreeable, agreeably exciting, and agreeably depressing states all give faster pulse and fall of volume, though both Wundt's and Lehmann's theories call for slowed pulse under these conditions, and also for increase of volume. In Shepard's experiments there is no decrease of the brain volume with either agreeable or disagreeable stimuli. All moderate nervous activity tends to constrict the peripheral vessels and to increase the volume of the pulse in the brain. All moderate nervous activity likewise increases the heart-rate. Strong stimuli cause both an exciting and inhibitory effect, especially in the heart-rate. The activity of any part tends to counteract constriction of that part.

In explanation Shepard suggests that moderate nervous activity also causes constriction of the splanchnic vessels, and strong stimuli an exciting and inhibitory effect upon them. The increased volume of the brain is probably due to increased blood-pressure from constriction at the periphery, and is simply reflex; it is not attention, as such, that causes the change. Shepard finds by experiments during sleep (in opposition to Lehmann) that it is probably not necessary for the stimulus to reach consciousness. HAVELOCK ELLIS.

Glossolalia [*Classification des Phenomènes de Glossolalie*]. (*Arch. de Psychol., July*, 1907.) *Lombard, E.*

This interesting and comprehensive study of "speaking with tongues" is rich in illustrations from many by-paths of literature and religious history. Glossolalia is defined as "phonic automatisms taking (or tending to take) the form of a tongue or a language other than that which the subject speaks in his normal state." The various forms of glossolalia are investigated in the order of their increasing complexity:

(1) *Inarticulate phonations and allied phenomena.*—These are simply confused vocal emissions, cries, sighs, murmurs, sometimes loud, but not attaining to organised articulated words; the subject is in a more or less somnambulistic condition and behaves like a child, as St. Paul remarks in a passage of remarkable penetration (I Cor., xiv, 20). In all glossolalia Lombard considers there is a basis of infantile mentality.

(2) *Glossolalia proper*, in various stages. At this point a subconscious design begins to preside over the glossolalic manifestations, and the listeners are inclined to believe that it is no longer the subject himself who is speaking, but a higher power through him; he himself also realises that he is not responsible for the stream of words rushing from his mouth. The words are unintelligible, and often have no meaning even to the speaker; this has been insisted on as proof of their supernatural origin by Jamblichus, Irving, etc. The first result of this verbal elaboration is a pseudo-language, *i.e.*, an assemblage of articulate sounds simulating a discourse, but with no regular correspondence between sounds and ideas. Lombard considers that the pseudo-language is analogous to that form of paraphasia in which the subject, though able to think correctly, can only translate his thoughts into a meaningless jargon to which he yet gives the intonation proper to his thought, and Lombard recalls that when children at play wish to speak the language of savages they succeed best when they have a clear idea as to what their words are to express. But the assemblage of words in a pseudo-

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language is never absolutely, only relatively, arbitrary. Mental representations cannot fail to have some connection, even if merely fugitive, with the sounds. In this way definite new vocables tend to be formed, having a vague kind of appropriateness to the objects they are connected with, sometimes based on emotional associations. In the next stage these neologisms become systematised, and we have automatic glossopoiesis. It is sometimes possible to unravel the associations by which these new words have been made. This has been successfully done with the "Martian" language of Hélène Smith, who has been so elaborately studied by Flournoy, Henry, and others. Martian is not a mere jargon, but a real slang tongue on an infantile basis. The words seem invented, but they are really adapted under the stress of a particular emotional disposition. From the highest to the lowest the phenomena of glossolalia are due to a *conversion*—the alteration of a self whose phonic manifestations reveal its special emotional character.

(3) *Xenoglossia*, or the speaking of languages which have never been learnt, is the final form of glossolalia. It is commonly supposed that this was the form of glossolalia which appeared among the early Christians at Pentecost, though Paul's words exclude that assumption. The subjects of glossolalia frequently believe that they are speaking a real language that is unknown to themselves. Occasionally, however, this really occurs, and there is true xenoglossia varying from occasional words to phrases or even long passages. Lombard summarises various examples, notably that of Richet's Madame X—, which has been most carefully analysed; she was able, in a state of somnambulism, to write pages of Greek, although quite ignorant of Greek. Lombard concludes that two factors are concerned in xenoglossia when fraud has been excluded—forgotten memories and mental transmission from a person present.

HAVELOCK ELLIS.

Quantitative Psychology and its Results [*La Psychologie Quantitative*]. (*Rev. Phil., June*, 1907.) *Van Biervliet.*

The efforts of Fechner and his followers to establish a science of psycho-physics have, as is now widely recognised, led only to results of secondary importance; the attempt to regard man as a physical instrument from which very precise results could be obtained has scarcely proved profitable. There is, however, another method, that of quantitative physiological psychology, as mainly established by Wundt, and Van Biervliet here discusses its validity and results, choosing more especially reaction-time and the duration of mental operations. He points out that the conscious act can only be investigated at its extremities; the central, the truly conscious part of the act, is not measured but only estimated. This fact diminishes the precision of psycho-physiological laws.

The personal element which intervenes in all the biological sciences here plays a specially large part, yet at the same time it must be admitted that the addition of the method of scientific observation, experiment, and measurement to the method of simple observation and introspection which ruled previously constitutes a real revolution in psychology. The study of the results reached by various investigators

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as regards reaction-time, which is yet the simplest process for investigation, shows, Van Biervliet points out, a very considerable range and variation of results; even in the same subject the results are very far from uniform. It is extremely difficult to equalise the conditions for experiment, and it is very seldom that experiments are made on a sufficiently large number of subjects. The author's general conclusion is that the labours of psycho-physiologists in measuring the direction of conscious phenomena have furnished indications rather than results, but that these indications are of capital importance and serve to open a road which is much wider and safer than that which the psycho-physicians had attempted to create. HAVELOCK ELLIS.

Timidity as a Factor in Psycho-neurotic Conditions [*Le Rôle de la Timidité dans la Pathogenie des Psycho-névroses*]. (*Rev. de l'Hypnotisme, January*, 1907.) *Bérillon, Damoglou, etc.*

Bérillon considers it an astonishing fact that few recognise how often timidity is at the basis of all psycho-neuroses. He regards the intimidated person as in a state psychologically analogous to that of a hypnotised person. Blushing or pallor are the vaso-motor signs of a real shock which cannot fail, if often repeated, to have an overbalancing or depressing influence on the central nervous system. Bérillon's inquiries among a very large number of patients for some years past led him to believe that nearly all the subjects of hysterical and neurasthenic troubles are affected by timidity before their disorders begin, apart from the fact that in a considerable proportion of cases the appearance of a neuropathic affection is directly connected with some act of intimidation of which the patient has been the victim. In such cases the affection resembles the traumatic neuroses in prognosis and duration as well as in symptoms.

Education and social environment are the chief factors in the development of timidity. In countries like America and Switzerland, where there is much social equality, timidity is comparatively infrequent. It is very frequent in France, where there is a marked social hierarchy. For the same reason it is extremely common in England (as well as among Americans of English origin), and no country produces so many cases of the phobia of blushing as England.

Damoglou, who occupies the same standpoint as Bérillon, follows with a paper on "Timidity in the East." Here the social conditions are very favourable for the production of timidity, which has become a kind of hereditary and endemic disease. Inferiors are in a perpetual and exaggerated state of timidity before superiors, and the young in the presence of the old. Damoglou considers that this has had a disastrous result in paralysing the will and asphyxiating the social life of the peoples of Turkey and Egypt. HAVELOCK ELLIS.

Resistances and Retardation in Brain-work [*Wiederstände und Bremsungen in dem Hirn*]. (*Arbeit. Psychiat. Klinik zu Würzburg, H* 2, 1908.) *Rieger, C.*

Dr. Rieger has made some careful experiments to measure the relative time in which mental processes can be performed. Using the ordinary

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divisions of minutes and seconds, he divided the last into sixty parts, which he calls tertians. He used a watch graduated with twelve tertians, five in the second. He arranges his letters, words, and sentences into *staccato* and *legato*, *i.e.*, single and connected.

A letter looked at alone takes longer time to write than as the component of a written or printed word. He observes that it is astonishing how little the particulars which go together to make up a view of a landscape, or the letters of a page are noted. Unconnected words take longer time than when they flow in an intelligible sentence. Sixty letters can be read in *legato* in a second if the sentence is easy; longer words take more time than shorter words unless the latter are uncouth, and from ten to eleven are read in the second. Copying the alphabet in the usual sequence is quicker work than copying from "z" to "a," also copying or reading a sentence when the meaning is easy. The sense should be grammatical but need not be logical. Twelve words can be counted in the same time as a hundred words are read; some letters take double the time to write than others; this gives an advantage to the typewriter, who can do each letter with one tap. One can write two letters *staccato* and four *legato* in the same time.

To write a word in the usual way can be done in half the time than if the letters are written wide apart. The general result was that intentional separation of the natural flow of letters, words, or sentences takes longer time as it costs more effort.

Rieger pursues the same kind of inquiry into the apprehension and naming of outer objects and with the same results. The mind habitually classifies and arranges what is seen, throws the objects into groups, passes over some particulars and rests upon others. What interrupts or disjoints this process costs more effort and more time.

It would be curious to measure the utterances in the flow of *staccato* words which we often have in maniacal delirium in which the usual association of thought is so utterly broken.

WILLIAM W. IRELAND.

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2. Clinical Psychiatry and Neurology.

On a Mode of Combination of Psychasthenia and Delusional States [*Sur un mode de combinaison de la Psychasthénie et du délire*]. (*Journ. de Psychol.*, *Mai–Juin*, 1908.) *Arnaud, F.*

At one time it was almost universally considered that obsessions and true delusions were incompatible conditions, belonging to two entirely distinct categories. Of late years, however, such an opinion has been considerably modified, and to-day it is recognised that not only are combinations between the two types possible, but they are indeed frequent. The author describes three forms in which such associations may occur:

(1) Those cases of psychasthenia whose peculiar symptoms are for the time masked by a supervening delusional state arising merely as an accidental occurrence. When these acute mental conditions clear up the original symptoms reappear unmodified.

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(2) Those cases in which delusions and obsessions exist together at the same time, each set of symptoms remaining distinct from one another. The delusions are usually persecutory and tend to become fixed and systematised.

Both these varieties have one feature in common, *viz.*, the delusions are composed of elements quite distinct from the obsessions themselves. It is a complication of one mental state by another of essentially different type.

(3) In this variety the delusions have their origin in the obsessions themselves and retain the general characters of such obsessions, which exist, as it were, in an extremely exaggerated form. This development of the disorder is the main subject of this paper, the author terming it *psychasthénie délirante* (delusional psychasthenia).

Given a psychasthenic, with feelings of insufficiency, obsessions, impulsions, emotional crises, abulia, phobias, manias and ruminations, it is shown that he may go a step further and put some delusional interpretation on his altered feelings: *e.g.*, personal unworthiness, ideas of crime, persecution, possession by some malign influence, etc. Such delusions have characteristic features, *viz.*:

(*a*) Their enormous exaggeration and absurdity in contrast with an almost complete retention of reason and judgment in respect to everything unconnected with them.

(*b*) The passionate and unceasing attempts to logically uphold them.

(*c*) Remissions with almost complete insight. They are sudden and very brief, differing entirely from those of the periodic psychoses.

The author critically examines to what extent such ideas are truly delusional and not merely conscious obsessions of extreme type. That there is a considerable degree of conviction, comparable to that in ordinary vesanic delusions, is evident from the fact that the conduct of the patients is in conformity with their abnormal ideas. On the other hand they retain the essential traits of obsessions in their variations of intensity and a certain incompleteness, revealing only a partial assimilation and acceptance by the personality. After a time conscious criticism of these ideas lessens and they constitute a true secondary systematised delusional state. At this stage there is no possibility of any alleviation of the symptoms. H. DEVINE.

A Case of Reversed Orientation [*Le renversement de l'orientation, ou allochirie des représentations*]. (*Journ. de Psychol. Norm. et Path., March*, 1908.) *Janet, P.*

The patient, a woman, æt. 29, complained that her environment was always "the wrong way round." When actually walking in a certain direction she felt that she was walking in the opposite direction. The trouble was, however, purely subjective, and did not interfere with her movements. She invariably orientated herself correctly by a process of reasoning.

A complete physical examination showed that no lesion of the sensory organs was present. The ears and eyes were normal, also the semicircular canals when tested by Mach's apparatus.

After considering various possible hypotheses as to the psychological

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mechanism at work in this case, Professor Janet comes to the conclusion that the condition is probably due to a kind of allochiria of the sensory memory-images. The lesion lies in a reversal of the feeling of right and left. Only memory images are, however, affected—the actual perceptions preserve their normal orientation. The patient's memories constitute a mirror image of reality. Hence, when she perceives the actual position of things, she is obsessed with the idea that their direction has been reversed. BERNARD HART.

Psychical Phenomena in Migraine and its Relation to Epilepsy [*I Fenomeni Psichici Nell'Emicrania e i Rapporti di questa con l'Epilessia*]. (*Rivista Sperimentale di Freniatria, vol. xxxiii, fasc.* 1.) *Forli.*

In the clinique at Rome, Dr. Forli has made careful observations upon 185 patients affected with migraine, especially with a view to ascertaining the degree of mental disorder in that distressing malady. Liveing, writing in 1873 on megrim, published sixty observations of individuals so affected, in which he laid stress upon the presence of mental aberrations under the form of incoherency of ideas, confusion, and vague fears. Möbius, on the other hand, while he admitted that during the attack of hemicrania there was an incapacity for mental activity, irritability and distress, still held that these disturbances depended upon the pain. Dr. Forli, as the result of his study, comes to the conclusions that mental disturbance is frequent in migraine. Sometimes they precede the pain, and while these derangements involve all the fields of mental activity they have most effect upon the senses of sight and hearing. Forli observes that such patients have a dislike to light; luminous flashes appear before the eye, or there are coloured spots, or everything appears yellow. One man, æt. 28, saw during the attack of hemicrania bright coloured points and a kind of target with a black centre and clear circles, and menacing and disgusting figures. These appearances do not stand with the pain in the relation of cause and effect, but constitute two symptoms of one type of disease. There are painful attacks of hemicrania attending some other nervous diseases like tabes, general paralysis, and abscess of the brain, but migraine constitutes, at least in most cases, a disease distinguished by many characters, and it ought not to be confused with any other nervous disorder. WILLIAM W. IRELAND.

Visual Verbal Amnesia due to Arrest of Post-natal Development. (*Psycholog. Clinic, April* 15*th*, 1907.) *Witmer, Lightner.*

In the case here described (which may also be called one of visual aphasia), a youth, æt. 15, of more than average intelligence, who had received the ordinary school education, although able to express his thoughts adequately in spoken language, and with good memory for sounds and good visual memory for colours and even separate letters, could not read nor spell correctly except such words as he could spell from the sounds of the component letters. In the Psychological Laboratory it was discovered that, though the boy had practically normal vision in each eye, he saw double because from defect of the external ocular muscles he was unable to co-ordinate the eyes accurately, and

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he could never properly see a whole word. The defect was corrected so far as possible by glasses, but the boy was still unable to read; his visual memory and imagination had had no training in this field, and his brain was not stored with visual verbal memories. The brain centres concerned with reading and spelling were as undeveloped as those of a child of six. He was now submitted to careful training by skilful teachers, but though he became fond of reading he never acquired ordinary skill in reading or spelling, even at his death ten years later from tuberculosis. The author finds that bad spelling in individuals otherwise mentally normal is always associated with some eye defect, though he is not convinced that it is necessarily caused by the eye defect, and in some cases there seems to be congenital incapacity to develop the normal visual functions of language.

It may be added that *The Psychological Clinic* is a new monthly journal "for the study and treatment of mental retardation and deviation," and is edited by Dr. Witmer, of Pennsylvania University.

HAVELOCK ELLIS.

The Insane in the Russian Army during the Japanese War [*Die Geisteskranken im Russischen Heere während des Japanischen Krieges*]. (*Allg. Zt. f. Psychiat.*, 1907, *H.* 2–3.) *Awtokratow, P. M.*

The author was the Red Cross medical officer at the head of the organisation for the care of the insane on the Russian side during the Japanese War. He claims that this is the first time that special attention has been bestowed upon the cases of insanity occurring in an army in the field, partly because military surgeons have not had a proper psychiatric training and partly because there has never before been a suitable institution in the field for the reception of the insane. In this respect, the author believes, the Russian Red Cross Society and Government have shown themselves much more humane than any other nation.

The Central Psychiatric Hospital was at Harbin, and here in the course of fifteen months 1,347 men (about one officer to four privates) were received. The organisation of the hospital is fully described. Only cases of insanity were admitted, another institution being established for cases of nervous disorder.

It appears from the tables given that among the officers chronic alcoholism was responsible for more than a third of the cases; among the privates epileptic psychoses came first. General paralysis and neurasthenic insanity are placed next in order among the officers, and among the men alcoholic psychoses and confusional insanity. Among the officers 75 *per cent.* of the cases are thus accounted for, and among the men more than 50 *per cent.*

It appears that in times of peace general paralysis comes first in order among cases occurring in officers and alcoholism second, while among the men alcoholic insanity is very rare. Epileptic insanity frequently occurred after prolonged battles in individuals who could give no history of previous attacks; on investigation, however, it was usually found that they had had nocturnal enuresis as children. These cases all rapidly recovered in, at longest, three weeks. Alcoholic insanity was chiefly

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increased during the war by acute poisoning from the consumption of Chinese spirits. Among the officers, in whom it is common in peace, its increase was largely due, the author believes, to heightened susceptibility resulting from nervous exhaustion, it often occurred in young officers who had never taken spirits before this campaign.

Neurasthenic insanity was the most special form encountered. It was marked by depression, exhaustion, nervous irritability, accompanied by headache, restless sleep and apathy, with ideas of suicide and complete inability for exertion; at the same time these patients were extremely sensitive to every external impression; they could not endure society and at the slightest sound they trembled all over; in their broken sleep they lived over again the terrible events they had passed through. Most of them had obsessions and visual or auditory hallucinations. They saw piles of putrefying corpses; they could not escape from the smell of them; they felt themselves crushed by the weight of them. Sometimes they heard the cries of the wounded or the voices of their dear ones at home. Some, though not all, were able to judge their experiences critically, and most on recovery were able to recollect their condition. There was extreme hyperasthesia and irritability; not merely the touch but even the approach of a hand was sometimes unendurable, and sometimes the knee-jerk was so exaggerated that it involved a convulsion of the whole body, and an involuntary scream. Most of these cases recovered completely within four weeks. HAVELOCK ELLIS.

Two Cases of Destruction of the Lower Left Frontal Gyrus [*Zwei Fälle von Zerstörung der unteren linken Stirnwindung*]. (*Journ. f. Psychol. u. Neurol., Bd. ix*, 1907.) *Liepmann.*

Liepmann has contributed two cases to sustain the controversy raised by Pierre Marie, who has tried to show that the lower part of the third frontal gyrus has nothing to do with aphasia though injury to it may cause *anarthria*, *i.e.*, difficulty of articulation. Marie regards the region about the nucleus lenticularis as implicated in motor aphasia.

The first of Liepmann's cases was an old woman admitted into the Charité Hospital in Berlin affected with senile dementia and delusions of suspicion. In the Charité Hospital she was seized with cortical motor aphasia. She became unable to utter a word, could not comprehend writing, reading, and could only copy writing. She retained the capacity of understanding speech. After being above two years in this speechless condition she died.

On examination the dura was found adherent to the skull, the convolutions small, the sulci deep and broad; in place of the third frontal gyrus there was a cavity over which the pia was stretched. Nothing remained of the gyrus save a piece about two centimetres broad in the front part. There were yellow spots on the vessels of the base of the brain. Marie's lenticular zone was unaffected.

While this case gave support to the old view advanced by Broca, the second one detailed by the Berlin professor seemed to strengthen the thesis of Marie that the third frontal has nothing to do with language. This was a case of senile mental decay. The man could still count, knew the multiplication table, and could read and write.

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His speech was slow and somewhat deficient in sense, but he was talkative. He said that he had several paretic attacks which affected the left side. He died of failure of the heart's action after being four weeks in the hospital.

On examination, there was noted adhesion of the membranes with the skull, paleness of the pia, sclerosis of the vessels, and general atrophy of the brain, which weighed 1,200 grammes. There was extensive destruction of the lower part of the left inferior frontal implicating the whole of the pars triangularis and the anterior half of the pars opercularis. The foot of the gyrus and the pars orbitalis seemed to be intact. There is given an engraving of the lateral aspect of the left hemisphere. At the time of publication of the article the brain had not yet been sliced for further study. From such a serious lesion to Broca's convolution one might have expected a manifestation of motor aphasia, and as nothing of the kind appeared the injury discovered might be considered a confirmation of Marie's disbelief. On inquiry into the man's antecedents it transpired that ten years before he had a severe apoplectic attack with what was recalled as left-sided paralysis. For a fortnight he spoke a little, after which he became speechless. This mute condition lasted for three weeks, after which he began to learn slowly again to speak; but half a year elapsed before he regained ordinary speaking capacity. Writing was lost along with speech, although he was always able to understand what was said to him. The man was naturally right-handed. Liepmann's explanation is that at this time the patient had motor aphasia, and that during the ten years there was a restitution of the speech faculty by the vicarious function of other parts of the cortex.

WILLIAM W. IRELAND.

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3. Pathology of Insanity.

On the Alkalinity of the Blood in Epilepsy [*L'Alkalinita del Sangue negli Epilettici*]. (*Il Manicomio, N.* 1, 1907.) *Tolone, J.*

Dr. Joseph Tolone, Assistant Physician in the Provincial Asylum of Catanzaro, has made some careful researches upon this subject, which has already been studied by several Italian and French observers.

He divided his patients into three groups. In the first, ten in number, the epileptic attacks recurred at long intervals; in the second group of four the intervals were short, sometimes two or three attacks in the day; in the third five cases the attacks habitually recurred from three to eight days. With all his epileptic patients the blood was less alkaline than with healthy persons. Where the fits returned after long intervals the alkaline reaction of the blood, though less than the normal, was higher than in the other groups. In those cases in which the intervals were short the alkalinity was lowest just before and after the attacks. In the group between those of medium frequency the degree of alkalinity rose almost up to normal and then sunk till the epileptic attack, after which it mounted.

Dr. Tolone put the question whether the diminution of the alkaline

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reaction of the blood be due to the diminution of the alkaline salts proper in the circulating fluid, or to the excess of acid substances owing to retarded elimination.

It is not easy, he remarks, to answer this question. The observation of Biernaki that the diminished alkalinity is owing to the accumulation of lactic acid has not been accepted by any other observer. The epileptic attack cannot be caused by the lessened alkalinity of the blood, since Charon and Briche have found that it cannot be put off by repeated injections of alkaline solutions, nor can the alkalinity depend upon the attack, because it is actually lessened in degree thereafter. Tolone himself thinks that the diminution of alkalinity depends upon the production of substances due to retrogressive changes or to diminished elimination, perhaps owing to the lessened action of the liver. Thus toxic matters accumulate in the blood, which act upon the cortical matter of the brain, but the resulting disturbance represents a reaction and favours the elimination of the toxic products especially by restoring the power of the hepatic cells. WILLIAM W. IRELAND.

Investigations upon the Spinal Fluids in Mental and Nervous Diseases [*Untersuchungen der Cerebrospinalflüssigkeit bei Geistes und Nervenkrankheiten*]. (*Arch. f. Psychiat., Heft.* 2, *Bd.* 42.) *Henkel.*

The study of the state of the cerebro-spinal fluids in disease has been mainly initiated by French pathologists. Schoenborn was the first to take it up in Germany. He was followed by Siemerling and Meyer.

Lumbar puncture has been principally useful for diagnosis; its therapeutic value has been slight. Meyer found that in almost all cases in which there was organic disease with chronic meningitis there was an increase of lymph cells in the cerebro-spinal fluid. He describes these lymph cells as small round nuclei with indistinct contour, at one part clearer but without granules. In general paralysis he has found bigger blue nuclei, which within the cells are surrounded by red granules.

As the result of his observations in the Psychiatric Clinique at Kiel, Dr. Henkel gives the following conclusions: He has regularly found a considerable increase of lymph cells, abundance of serum albumen, and increase of serum globuline in progressive paralysis, tabes, lues cerebri and cerebro-spinalis, and in all the forms of meningitis. These appearances were also constantly observed in cerebral tumours although in a lesser degree. It is much the same in myelitis, only there is a greater relative increase in the amount of albumen. In arterio-sclerosis, multiple sclerosis, and syringomyelia the changes in the cerebro-spinal fluid were variable; perhaps they depended upon the seat of the lesion. In early syphilis without organic implications there was sometimes a small increase of lymphocytosis. No such production of cells could be found in infantile paralysis or in functional disease. One had the impression that in chronic processes single nuclei, in acute processes cells with several nuclei, were most abundant. Inflammations seemed to favour the increase of cell-formation, but the manner of this increase could not be made out. WILLIAM W. IRELAND.

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Changes in the Blood, especially in Insanity [*Le Alterazioni del Sangue in Rapporto specialmente alle Malattie Mentali*]. (*Il Manicomio, N.* 1 *and* 2, 1907.) *Galdi.*

Formerly, there was too much solidism in our pathology, but of late years there has been a closer study of the varying conditions of the circulating fluid in health and in disease.

Such researches are enormously difficult, and often the results of different observers clash with one another. Dr. Galdi has undertaken the useful task of collecting from the medical literature of Europe and America the more recent studies on the blood in mental and nervous diseases. His two papers fill one hundred pages, and he cites 270 works which contribute to the subject. According to Schaeffer the coagulation of the blood takes place under the influence of a ferment (trombina), which is formed by an unknown reaction of a nucleo-proteid (protrombina) with atoms of calcium. This protrombina is found in various cells, principally in the leucocytes. After the protrombina forms an enzyma with the salts of calcium, coagulation becomes possible. In some conditions the formation of the nucleo-proteids and their reaction are hindered, causing the coagulability of the blood to vary. The whole of the fibrin ferment is not used in the process of coagulation; some of it still remains free in the serum. Galdi observes that in spite of the large number of observations, in which Italian pathologists have taken a large part, it is difficult to arrive at any certain conclusions. He, however, sums up in five pages:

The coagulability of the blood is much diminished in epilepsy, especially when the convulsive attacks are frequent, which may depend upon a reduction of the functional activity of the liver. The alkalinity of the blood is constantly diminished in epilepsy and in pellagrous insanity. The alkalinity of the blood has also been found to be lessened in mental confusion and dementia præcox, general paralysis, and in mental disorders in which there is great motor restlessness; but it is increased in the alcoholic forms. Hypoglobuly, diminution of the red corpuscles, is a symptom of intoxication, infection, malnutrition, and morbid diathesis, while hyperglobuly indicates a state of molecular concentration of the blood. These states have only an indirect relation to the mental disorders depending upon divers conditions and constituting the substratum upon which the derangements implant themselves. Hypoglobuly with a deficiency of hæmoglobin was noticed in mania, melancholia, dementia, and general paralysis—conditions of great agitation, especially at the beginning and with female patients. The deficiency of hæmoglobin is observable before the hypoglobuly. The alteration of the red corpuscles commences with a diminution in their colouring matter.

Hyperglobuly was observed in maniacal states in epileptics after the convulsive attacks, in the optimistic stage of general paralysis and in the excited phases of maniacal depression. In patients with goitre, myxœdema, and acromegaly the hæmoglobin is diminished while the red corpuscles appear normal. Some interesting observations have been made in vascular neurasthenia. Cabot, Vigoroux, and others have observed an alteration in the number of the red corpuscles

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after the application of static electricity, massage, and baths. In these results, which are sometimes contradictory, one must bear in mind the influence of the tonicity of the vessels, so variable with the neurasthenics, exercised upon the quantity of the globules at the different times when the blood is examined. Cheron has described a vascular neurasthenia characterised by the apparent anæmia (hypoglobuly with hydræmia), which may appear at any time. This is solely owing to relaxation of the muscular coats of the arteries. In these cases of functional anæmia, Cheron used an injection of from 5–10 c.c. of salt water, 1 per cent. of which was followed by a considerable elevation of arterial tension and an increase of red globules from one-fourth to one-third. The apparent hypoglobuly is entirely owing to the stimulus exercised upon the nervous system by the injection. It diminishes gradually to be replaced by the antecedent hyperglobuly.

It was found by observation upon the influence of the emotions on the constitution of the blood and the state of the capillaries, which are under vasomotor influences, that the number of the blood-corpuscles varied. Joy induces an active dilatation of the capillaries and then hypoglobuly. Sadness, on the other hand, causes constriction with hyperglobuly. Hypoglobuly and hyperglobuly accompany the first vasomotor variations often before the mental affections, which is a proof that the alterations in the vessels are anterior to the emotions.

Careful observations were made upon the state of the hæmatoblasts. Like the red corpuscles they were found to be diminished in quantity at the beginning of attacks of insanity, to resume their normal proportions in dementia.

The results obtained by different observers about the globular resistance in insanity were sometimes discordant. What is meant by this expression is the more or less readiness with which a specimen of blood parts with its hæmoglobin to a graduated saline solution. It may be said that in general the globular resistance is less in insanity than in the normal condition, and that the greatest alterations in the blood are met with in processes of intoxication or of altered metamorphosis as in pellagra, dementia paralytica, and the first stage of dementia præcox. Also in mania, melancholia, and alcoholism, senile dementia, and in epilepsy the globular resistance is always found diminished. In epilepsy the greatest loss of tone may either accompany the convulsive attacks, precede or follow them.

From recent studies upon infection, it has been supposed that the increase of polynuclear white corpuscles indicates the reaction of the organism when an acute infection demands a prompt defence. In fact, it has been found that an increase of such polynuclear leucocytes, a diminution of leucocytes with a single nucleus and of lymphocytes, takes place at the outset of insanity of toxic infective origin, and the process is reversed on recovery. In the first stage of dementia præcox, in tabes, and in dementia paralytica there is an increase of the white corpuscles, especially with those which have several nuclei; but as these diseases progress a return to the single nuclei leucocytes and to the lymph corpuscles is observed.

Galdi remarks that the treatment of mental diseases by serum, notably in pellagra and epilepsy, has as yet yielded no beneficial results,

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while it has sometimes done mischief. In spite of many researches these experimenters are still sailing in the sea of hypothesis.

It has, however, been proved that the serum of the blood taken from patients suffering from pellagra and epilepsy has a malign influence upon the development of the embryo, arresting growth or producing monstrosities. A similar power seemed to be possessed by blood taken from cases of mania and melancholia.

Cappelletto, while admitting the recurrence of various microbes in the blood which may come from the intestines, denies that they have any importance as causes of mental derangement. Ceni believes that the morbid factor of acute delirium cannot be single and that the various microbes found in the blood (stafilococci, streptococci, micrococci tetrageni) can only be a true secondary auto-infection, and that they constitute a complication which always aggravates acute insanity.

Galdi assigns to Dr. Johnson Smith a priority in observing the density of the blood in forms of insanity. After explaining the researches of Dr. W. Ford Robertson upon the pathology of general paralysis and its assigned factor, the diptheroid bacillus, Galdi observes that it is still to be proved that the bacterium of gastro-intestinal origin is the primary cause of the malady and not secondary to the morbid process in the brain, and that the diphtheroid bacillus is really specific and nothing more than one of the many bacteria of "the intestinal flora" which, in ways not yet clearly known, enters the circulating fluid already depraved.

In conclusion, Galdi tells us that the catalytic power in the blood has been found much diminished in different forms of insanity, especially in dementia præcox and dementia paralytica, in epilepsy and in acute delirium. The activity of catalysis seems to hold some relation to the intensity of the insanity.

Catalysis is a name given by chemists to an obscure process by which the presence of one substance aids in the decomposition of another without itself appearing to be changed. Thus a small quantity of platinum minutely divided acts as a decomposer of oxygenated water, setting free the oxygen. In like manner Senter found an enzyma in the blood which he named *emasi*, and Issayew isolated another enzyma from the cells of a ferment which were found to act upon oxygenated water in the same way as pulverised platinum. Schönbein first showed that many vegetable and animal structures when brought in contact with oxygenated water set free oxygen. Ferments which acted in a similar manner have been found in animal tissues, especially in the liver, kidney, spleen and glands, and also in the blood, heart and brain.

The researches of pathologists in this difficult inquiry have been few and doubtful, but catalytic products have been found in some urines and in pus. Iolles and Oppenheim found the reducing action of the blood upon oxygenated water diminished in tuberculosis, nephritis, and in many intoxications produced by acids and carbonic oxide. They think that the symptoms of death through freezing and comatose conditions may be sustained by the failing activity of catalysis.

Pighini has endeavoured to study the catalysis of the blood in mental diseases. He began by making experiments on animals. Some dogs

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of medium size and age were made to inspire carbonic oxide, while on others there were practised injections of aspergillus, and from others the parathyroid glands were removed. Before and after the intoxication blood was taken from the external jugular and then subjected to examination.

It was found that catalytic products were contained in the blood during the acute and potential stages of the intoxication, but their action on oxygenated water was less powerful.

Pighini studied the catalytic power of the blood in sixteen insane patients; two of these were suffering from maniacal depression, five from dementia præcox, five from epilepsy, and one from acute delirium and three from dementia paralytica. The general result was that the catalytic power was found to be notably diminished in the different insane patients examined. It appeared likely that there was some relation between the acute state of the insanity and the dynamic power of the catalysis; but there are many causes which may modify the activity of the blood. WILLIAM W. IRELAND.

Contribution to the Study of Auto-intoxication in Mental Confusion [*Contribution à l'Étude de l'Auto-intoxication dans Confusion Mentale*]. (*A Thesis.*) *Prunier, André.*

In this thesis, Dr. André Prunier discusses the question of auto-intoxication in confusional insanity by an estimation of the toxicity of the urine. The subject of a toxicity of the urine has been of interest for many years, for Maron in 1868 first injected some subcutaneously, but obtained negative results and declared that it was inoffensive.

In a short review of the literature upon the subject the author refers to the observations of several workers at the Congress of Mental Medicine held at Rochelle in 1893, at which the whole question was discussed.

Gilbert Ballet and Roubinovitch stated that the urine of melancholiacs was hypertoxic, and that of maniacs less so, whilst from "mental degenerates" very variable results were obtained. Lavaure compared the toxicity of serum with the urine, and in two cases of mental confusion found that both were distinctly hypertoxic.

The author then describes how he carried out his experiments in guinea-pigs, taking especial care to correct the general causes of error in the technical details. He selected the urine from six patients who were suffering from mental confusion, and who at the same time showed signs of gastro-intestinal disturbance (constipation, diarrhœa, attacks of vomiting, excessive appetite, etc.), and he describes it as being hypertoxic in each case. He repeated each of his experiments on three different occasions.

He concludes from his own cases and from a review of the literature that there exists in most patients suffering from confusional insanity some gastro-intestinal trouble, as shown by abnormal fermentations, altered secretions, constipation, etc., all tending to exaggerate the production of intestinal toxines. Owing to an excessive production and absorption the kidney is stimulated to further work, so that there appears "a hypertoxicity of the urine." But this "hypertoxicity of defence" is not equal to the amount of toxine absorbed from the

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intestinal canal, so that an auto-intoxication of the body is produced which manifests itself by various physical signs and by the appearance of mental confusion. After injection of the hypertoxic urine, all the animals died in convulsions—in opisthotonos with trismus, never in coma; and he attributes this to the presence of a ptomaine in the injected urine.

Although the toxicity of the urine has been determined in several diseases, *i.e.*, general paralysis, epilepsy, etc., yet the value of the method has been seriously disputed, and these results must be accepted with considerable reserve. The author jumps too readily to the conclusion that the hypertoxic urine indicates the body is poisoned with toxines. Moreover it is very difficult to decide whether the observed or alleged disorder is the cause rather than the result of the disease in the central nervous system.

The question of auto-intoxication is most interesting and fascinating, and about which much has been written, but of exact observations there are but very few. SIDNEY CLARKE.

Part IV.—Notes and News.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF THE UNITED KINGDOM.

A GENERAL MEETING of the Association was held at 11, Chandos Street, Cavendish Square, London, on Tuesday, May 19th, 1908, Dr. P. W. MacDonald, President, in the chair.

Present: T. S. Adair, C. Aldridge, H. T. S. Aveline, C. H. Bond, A. N. Boycott, J. Chambers, M. Craig, W. R. Dawson, J. F. Dixon, T. O'C. Donelan, A. C. Dove, T. Drapes, F. W. Edridge-Green, F. H. Edwards, F. A. Elkins, J. A. Ewan, C. H. Fennell, N. J. H. Gavin, T. D. Greenlees, H. E. Haynes, J. W. Higginson, H. G. Hill, Robert Jones, N. Lavers, H. Wolseley-Lewis, H. J. MacBryan, J. H. MacDonald, P. W. MacDonald, M. E. Martin, W. F. Menzies, C. A. Mercier, W. J. Mickle, A. Miller, C. S. Morison, D. Orr, H. Rayner, D. Rice, R. G. Rows, G. H. Savage, G. E. Shuttleworth, R. Percy Smith, R. H. Steen, C. T. Street, D. G. Thomson, F. Watson, T. Outterson Wood.

Apologies for absence were received from: Drs. Bedford Pierce, Clouston, Hamilton Marr, H. H. Newington, Nolan, Turnbull, and Urquhart.

At the Council meeting were present: The President and Drs. Aveline, Hubert Bond, Boycott, James Chambers, Craig, Dawson, Drapes, Ewan, Fennell, Robert Jones, Wolseley-Lewis, Mercier, Miller, Orr, Rayner, and Steen.

THE MINUTES.

The minutes of the last meeting having already appeared in the Journal, were taken as read, approved, and signed.

The PRESIDENT said that, arising out of the minutes, a letter had been received from the Commissioners in Lunacy, which he asked the Secretary to read.

The SECRETARY (Dr. Hubert Bond) said members would remember that he was instructed to forward to the Commissioners in Lunacy a resolution passed at the last meeting of the Association in reference to the Factory and Workshops Act, 1908.

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Obituary References.

The President said: Before we enter on the work of this afternoon, I crave your indulgence for a few moments while I endeavour to convey an expression of our sympathy and condolence with the relatives and friends of those members whose loss by death we have to-day to deplore. Since our last meeting we have lost three distinguished members: Dr. Conolly Norman, Dr. M. D. MacLeod, and Dr. G. R. Wilson. Fitting and appropriate tributes to their memories have already appeared in the pages of our Journal, and therefore but few words are needed from me to-day. Dr. Conolly Norman was a man of many parts, a true lover of all things beautiful, whether in literature, science, or art, a gifted companion and a true friend. As an able physician, he has left a noble and inspiring memory. As I think we may say he died on the field of battle, another name is thus added to the long roll of Irishmen who through life's journey claimed the proud title, "Without fear, without reproach." When the sad news of his all too early and unexpected death reached us, one was reminded of the noble peroration, as if it were Conolly Norman's last farewell: "The hour of departure has arrived, and we go our ways —I to die, you to live; which is the better, God only knows." Dr. MacLeod was, as I think most of you know, stricken down with a serious illness at an early age, yet his interest in and love for his work remained as keen as ever throughout years of advancing physical weakness. The proud possessor of a great name, by nature a true clansman, keenly interested in many walks of life outside his profession, our departed friend was the most generous and large-hearted of hosts and companions. In Dr. G. R. Wilson we have lost an able worker in many fields of inquiry, and his all too early death is a distinct loss to science and the profession of which he was such a devoted member. I am sure it is your wish that appropriate letters conveying our sympathy and condolence be sent to the sorrowing friends.

The suggestion was acceded to, all the members present upstanding.

Election of Members.

Dr. C. C. Bullmore and Dr. Richard Kelly were duly elected ordinary members.

The President said all would have noticed a vacant chair that day. No one felt more than he did the loss of one of the greatest pillars of the Association at the meetings, the honoured Treasurer, Dr. Hayes Newington, and he asked the permission of the meeting to send to that gentleman a telegram of sympathy in his enforced absence from the meeting.

Agreed.

Contributions.

Dr. David Orr read a contribution by himself and Dr. R. G. Rows on "Some points in the Histology of Lymphogenous and Hæmatogenous Toxic Lesions of the Spinal Cord" (see page 560). This was followed by a lantern demonstration.

The President said he was sure all must admire this most interesting demonstration. He did not anticipate that there would be any difference of opinion that the two gentlemen who were working so diligently and earnestly were on the right track. He hoped they would continue their work, as he and all felt sure they would have their reward. The authors had informed him that they did not invite a general discussion at this stage of their work, and that they hoped to makea further contribution at a later date.

Dr. D. G. Thomson then read a paper on "The Teaching of Psychiatry" (see page 550).

A discussion followed in which Drs. Savage, Percy Smith, Orr, Mercier, Bond, and the President took part.

A letter from Dr. Clouston was read, suggesting that the matter being so important might be brought up again at the Annual Meeting, the Educational Committee in the meanwhile to be asked to consider it.

It was agreed that a motion dealing with the subject should appear on the Agenda paper of the Annual Meeting, in Dr. Thomson's name, and that the matter should also be referred to the Educational Committee.

The members and several visitors subsequently dined together at the Café Monico.

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SOUTH-EASTERN DIVISION.

The SPRING MEETING of the South-Eastern Division was held by the courtesy of Dr. Seward at the London County Asylum, Colney Hatch, on Tuesday, April 28th, 1908.

Among those present were Drs. MacDonald (President), Harvey Baird, C. H. Bond, P. E. Campbell, Jas. Chambers, R. H. Cole, H. Corner, J. F. Dixon, W. J. Donaldson, J. O'C. Donelan, A. C. Dove, F. A. Elkins, J. S. Gordon-Munn, N. J. Gavin, T. D. Greenlees, H. E. Haynes, J. W. Higginson, Robert Jones, Mary E. Martin, A. S. Newington, G. E. Peachell, W. Rawes, W. J. Seward, J. G. Smith, James Stewart, D. S. Thomson, P. W. Turnbull, F. Watson, R. Whittington, T. Outterson Wood, H. Wolseley-Lewis, and R. H. Steen (Hon. Sec.).

The visitors included George Billings, Esq. (Member of the Visiting Committee), W. C. Clifford-Smith, Esq., and Drs. Birt, Howden, Jones, and Blandy.

Apologies were received from Drs. Alliott, Amsden, Boycott, Bower, Ewart, S. J. Fielding, Haslett, Kingsford, Moody, Mott, Shuttleworth, R. Percy Smith, Taylor, and H. V. Walker.

The wards of the institution having been visited Dr. Seward entertained the members to luncheon. At the termination of the lunch the President proposed a vote of thanks to Dr. Seward for his kindness in so hospitably receiving the Division.

The meeting of the Divisional Committee was held at 2.15 p.m.

The general meeting was held at 2.45 p.m., the President in the chair. The minutes of the last meeting, having appeared in the JOURNAL, were taken as read and confirmed.

The following members were elected by voting papers to take office for 1908–9

Hon. Secretary of the Division.—Dr. R. H. Steen.

Representative members of the Division on the Council.—Drs. Boycott, Fennell, Wolseley-Lewis, and F. W. Mott.

The following gentlemen were elected as ordinary members of the Association; Dr. Edgar Faulks, Assistant Medical Officer, London County Asylum, Bexley, and Dr. Francis Arthur Knox Stuart, Assistant Medical Officer, West Sussex Asylum, Chichester.

Drs. Seward, R. H. Cole, and J. G. Smith were elected as members of the South-Eastern Divisional Committee of Management, which now consists of the following:

Retire in 1909.	*Retire in* 1910.	*Retire in* 1911.
Dr. Donaldson.	Dr. Taylor.	Dr. Seward.
Dr. Crookshank.	Dr. R. Langdon-Down.	Dr. R. H. Cole.
Dr. Stoddart.	Dr. Dixon.	Dr. J. G. Smith.

The invitation of Dr. Elkins to hold the autumn meeting of the Division at Leavesden Asylum was unanimously accepted with much pleasure. The date was fixed for October 6th, 1908. The date of the spring meeting was fixed for April 27th, 1909.

CONTRIBUTIONS.

Dr. W. J. SEWARD read a paper entitled, "Notes on the History of Colney Hatch Asylum."

It having been suggested to me that it might be of interest on this occasion if a short account were given of the history of the Asylum, I very willingly undertook the duty, but I have to ask for your kind indulgence as I have been unable, owing to unforeseen circumstances, to devote as much time as I intended to the preparation of the following notes:

As you are doubtless aware, this Asylum originally belonged to the old County of Middlesex, and was transferred in 1889 to the new County of London under the provisions of the Local Government Act of 1888. Hanwell, which was the first asylum erected for the County of Middlesex, was opened in 1831, with accommodation for about 500 patients, which was gradually increased, till in 1846 the number of patients was 972. By this time such a large increase had taken place in the number of patients needing asylum care and treatment that Hanwell was unable to supply half of the required accommodation. It was there-

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fore evident that a second asylum must be provided, and in January, 1847, the Court of Quarter Sessions appointed a Special Committee to select a suitable site, and they eventually secured the property on which the Asylum now stands, its area being 119 acres, and the price paid being at the rate of £150 per acre.

Premiums were then offered for plans, and a number of leading authorities in connection with asylums and hospitals having been consulted, those submitted by Mr. S. W. Daukes were eventually selected. The estimate based on the original plan was £80,000, but many additions and alterations were subsequently made, including the Recreation Hall, and when the plans were finally settled the lowest tender amounted to £138,000.

On the 8th May, 1849, the Foundation Stone was laid by the Prince Consort, and at the conclusion of the ceremony the Lord Lieutenant of the County (the Marquis of Salisbury of that day) announced by the Queen's command that Her Majesty had been graciously pleased to found a fund, to be called the Victoria Fund, for the relief of patients discharged on recovery.

The building, as far as the original contract was concerned, was completed in less than eighteen months, and was handed over to the Committee on the 31st October, 1850; but much work remained to be done, including a costly system of heating and ventilation, which eventually proved to be a failure. The chapel was dedicated and the cemetery consecrated by Dr. Blomfield, Bishop of London, on the 1st July, 1851, and on the 17th of the same month the first patients were received. The final total cost, including the land and equipment, was £292,000, and as accommodation was provided for 1240 patients, the cost per bed was about £235. This would now be considered a moderate expenditure, but the Committee evidently feared that it might be thought extravagant, and they were therefore careful to point out that they had considered it their duty to provide an asylum "complete with all that modern science and the present enlightened views of humanity had rendered available for the care and comfort of the unfortunate class of invalids to whose use it was to be dedicated, and that they would not show a proper estimate of the generous sympathy of the ratepayers towards this suffering portion of their own poor neighbours if they sacrificed to a feeling of false economy anything that could minister to the mind diseased"; and they concluded their first report by reminding the ratepayer of "those encouraging words of Scripture, 'He that hath pity upon the poor lendeth unto the Lord: and look, what he layeth out, it shall be paid him again.'"

When completed the building was described as "standing unrivalled as a lunatic asylum, unique in size, elevation, and accommodation, in this country or perhaps any other," and a printed guide was prepared "for the use of the numerous visitors, English and foreign, who visited the Asylum during the period of the Great Exhibition in the Crystal Palace in Hyde Park, among whom were many men of high standing in the ranks of philanthropy, art, science, medicine, and architecture." It does not seem to have occurred to anyone that this building, which was considered to be so perfect, would within a few years be regarded as being altogether out of date, and that it would be necessary for very large sums to be expended in order to bring it up to something approaching the requirements of the future in regard to comfort and sanitation.

The elevation is generally considered to be handsome and artistic, but the interior of the wards then presented an extremely gloomy and depressing aspect. An arched fireproof ceiling of tiles and concrete, similar to that still to be seen in the corridors, gave to the wards a tunnel-like appearance, and the very small iron window-frames admitted a minimum of light and air. The w.c.'s consisted, even in the largest wards, of two small rooms, opening directly into the ward, and each provided with a single seat. As regards furniture nothing was provided beyond plain deal tables and benches, the rough unplastered walls were not even painted, but simply whitewashed, and there was a total absence of pictures or any kind of decoration. Some of the arrangements of those days for the health and comfort of the patients seem strange to us now. In the original rules for the weekly bathing it was provided that *not more than three* patients should be bathed in the same water, and it was considerately added that the more sensible and cleanly patients should have the privilege of entering the bath first.

Incidental reference has been made to the erection of the Recreation Hall, and although it will not compare with the magnificent halls of our modern asylums, it

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is not without historic interest, as it was described as a "great new feature," and it would seem probable that it was the first hall of the kind which was ever erected in connection with an English asylum. It was not, however, originally intended for entertainments and dances, but as a place in which the patients might take exercise in wet weather, and the words "Exercising Hall," which appeared in large letters on the front of the gallery, were removed only a few years ago.

The Medical Staff consisted of two medical officers, who had charge of the male and female sides respectively, and their salaries were £200 per annum. They were not then called Medical Superintendents, and it was only two years later that an Assistant Medical Officer was appointed as an experiment. The first medical officers appointed were Dr. (afterwards Sir Charles) Hood and Dr. J. G. Davey, both of whom resigned their appointments in the year following the opening of the Asylum, the former on his election as Resident Physician at Bethlem, and the latter on obtaining a Government appointment in Ceylon.

The beneficent work of Dr. Connolly at Hanwell was still so far a novelty, that it was thought necessary to draw special attention to the fact that mechanical restraint would not be used at Colney Hatch. In the first report reference was made to the large number of patients who were brought to the asylum in restraint, many of whom had for a long time been tied down in their beds in the workhouses.

It would seem, however, that chemical restraint was freely used in the form of opium, and there is a curious account in the first report of the administration of chloroform on two occasions "with most decided success" in the case of a female patient who was in a condition of acute maniacal excitement. The report is as follows: "I found her in a dreadful state of excitement, plunging about in so violent a manner that to leave her alone even in a padded room, was deemed impracticable and unsafe. Such continuous and exaggerated insane impulse I have never before seen. The attendants were exhausted, literally worn out with fatigue; the inhalation of ʒiss chloroform not only deprived her directly of all muscular power, but threw her into a profound slumber, in which she continued for nine consecutive hours. It was some days before she recovered the free use of her lower extremities, her gait assuming that of a person partially intoxicated; and, what is worthy of notice, perhaps, the use of the catheter was for some eight or ten days after its inhalation rendered necessary." It was added that the use of chloroform in such cases was probably not unattended with some danger, an opinion with which most of us are likely to agree. Within a few months of the opening of the asylum there was a severe outbreak of dysentery in the wards, many of the cases ending fatally. As a preventive, and as an aid to convalescence, an experiment was made in the substitution of cider for the customary allowance of beer, it being thought that the free acid which it contained might give a healthy stimulus to the digestive organs, and it was believed that some benefit resulted from this treatment.

On the last day of the year 1851, what was described as "a novel and extraordinary experiment" was made, which is thus recorded in the first annual report: "on New Year's Eve the committee was enabled (such was the perfect order and discipline established in every department) to allow a festival to be given to the patients, of the nature of those so much approved and enjoyed at Hanwell, but with this additional and remarkable feature, that the lunatics of the two sexes met at the same time in the large exercising hall and danced together, enjoying several hours of rational amusement, to the honour of the non-restraint system, without a single incident to cause alarm, annoyance, or regret, either at the time or afterwards, the asylum during the night being more tranquil than usual." If we are tempted to smile at this rather quaint account of what has long been part of the ordinary routine of every asylum, we must I think admire the courage of those who made a novel departure, which evidently caused them no little anxiety.

Time will permit me to refer but briefly to the subsequent history of the asylum. Through successive enlargements the number of patients gradually increased, until in 1883 they reached a total of 2240. In 1896 the deficiency of accommodation in the County of London had become so great, that it was necessary to provide additional beds with as little delay as possible, and temporary buildings for 300 female patients and the necessary staff were erected and occupied within little more than six months, the number of patients being thus increased to 2584.

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These buildings were destroyed by the disastrous fire which occurred in January, 1903, and will shortly be replaced by the new buildings which are now in course of erection. The area of land belonging to the asylum has been increased by successive purchases, and now amounts to 165 acres.

Some thirty years ago the structural alterations and improvements were commenced, which have been in progress from time to time ever since. The arched ceilings were removed, the prison-like windows replaced by large sashes, sanitary blocks were built, and in the majority of the wards the walls have been plastered. The drainage system has recently been entirely renewed, and the male wards are now warmed by means of steam from a central boiler-house, an arrangement which is being extended to the remainder of the building. Much still remains to be done, and it is hoped that the work of improvement may be continued.

Our population is unique among the asylums of this country in the number of Jewish patients which it includes, all the pauper patients in the county who are of this faith being sent here. They now number over 400, and are rapidly increasing. Arrangements are made for their religious requirements, a minister holding services twice weekly, and they have a special dietary, which is prepared by a Jewish cook in a separate kitchen. As a large proportion of them are aliens of Russian nationality, who speak little or no English, it is necessary for us to have an interpreting attendant on our staff. All these special arrangements necessarily involve a considerable additional expenditure.

As already mentioned, both of the medical officers who were originally appointed resigned in the year following the opening of the Asylum. Sir Charles Hood, who subsequently held the position of Lord Chancellor's Visitor, was followed by Mr. D. F. Tyerman, and he was succeeded in 1862 by Dr. Edgar Sheppard, who was for many years Professor of Psychological Medicine in King's College, London, and to whose enthusiasm for hydrotherapeutics we owe our very useful Turkish bath; he retired in 1881. Mr. W. G. Marshall was appointed to succeed Dr. Davy in the charge of the Female Department, and he held office for more than thirty-eight years. On his retirement in 1890 it was decided that in future there should be one Medical Superintendent for the whole of the Asylum. The memory of my two old chiefs, with whom it was a privilege to be associated, will always be cherished by me. I must also refer to our former Chaplain, the late Rev. Henry Hawkins, who was so well known to many who are here to-day. As the founder of the After Care Association his name will long be remembered and honoured. A tablet to his memory has been placed in the Asylum Chapel.

The work of bringing an old asylum up to the level of modern requirements is very costly, and can never be completely satisfactory. It has been suggested that it was a mistake to attempt it, and that it would have been better to entirely demolish and rebuild. From what you have had an opportunity of seeing to-day you will be able to judge to what extent success has been attained.

Discussion.

The President said he was sure that all present were very much indebted to Dr. Seward for the excellent way in which he had brought before them the history of so well-known an institution. He complimented Dr. Seward and the committee for the admirable arrangements made for the care of the Jewish patients.

Dr. D. G. Thomson said that as superintendent of the oldest existing public asylum he had been extremely interested in hearing the historical references in Dr. Seward's paper. He thought it would be difficult to answer Dr. Seward's question as to where an entertainment room was first established in a public asylum, because many asylums some time before 1851 had dining halls, and the practice in earlier days seemed to have been to remove the benches and tables from the halls and to allow the patients to dance and have entertainments in them. Certainly long before 1850 there were associated entertainments at the Norfolk County Asylum.

Dr. Robert Jones pointed out the great changes for the better which had taken place at Colney Hatch Asylum since he was Assistant Medical Officer there many years ago. He stated that he was much interested in the question of Turkish baths as a means of treatment of the insane, and he expressed the hope that some

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day Dr. Seward would be able to find time to write a paper on the value of this treatment.

Dr. Outterson Wood having also spoken,

Dr. Seward replied.

Mr. W. C. Clifford Smith read a paper entitled, "A Descriptive Account of the Buildings now in course of erection at Colney Hatch."

The opportunity of providing in new buildings for the deficiencies of the old occurs so frequently in asylums that I almost require to submit an apology to you for offering for your consideration a description of the structures now in course of erection here, but I put forward as an extenuating circumstance my belief that in these new buildings some accommodation of a special character is being provided.

The Colney Hatch Asylum was brought into existence very rapidly, and its enlargement followed quickly upon its opening, and although considerable additions have been made from time to time, the accommodation for sick and infirm cases in the female division remained insufficient until the temporary buildings were erected in May, 1896. These structures, all of which were for female patients, provided the infirmary wards required, but the calamity that befell them in January, 1903, and caused their total destruction, again brought the institution to its old condition.

When it was decided to replace the beds lost by the fire, Dr. Seward formulated his requirements to meet the conditions at that time existing, with the result that the buildings now in course of erection will not only give the necessary infirmary space, but also provide separate blocks for female patients suffering from phthisis and dysentery.

The total accommodation is for 314 patients and 20 staff, viz.:

	Dormitory.	*Single Room.*	*Staff.*
1 Villa for Boys . . .	36	4	3
1 Block for Phthisical Cases .	20	4	2
1 Infirmary Block . . .	42	6	4
1 " " . . .	42	6	4
1 Block for Chronic Cases .	54	6	3
1 " Acute Cases . .	54	6	3
1 " Dysentery Cases .	26	8	1
	274	40	20

Thus there are seven buildings, six being for female patients, and a seventh for the reception of the boys who are at present distributed in the wards of this Asylum. I should state that the majority of the boys who come under certificate in the County of London are sent here. The six buildings for the female patients are arranged on the site occupied by the temporary structures before referred to. Five are grouped together, and are connected below ground by subways through which the steam and hot-water services are to be carried, while communication on the surface between the buildings will be by covered ways open at the sides. The sixth building, that for phthisical cases, is wholly detached above ground from the others, but for heating and kindred purposes it is connected with the system of subways. These buildings will obtain their heating and hot-water supplies from the boiler-house shown on the general plan to the south-east of the block for dysentery cases. This boiler-house and its plant is not only designed to provide heating and hot-water supplies for the new buildings, but it is also arranged to provide the heating and hot-water supplies for a section of the wards in the main asylum which at present derive their services from a number of independent boilers contained in separate stokeholds some distance apart. All the new buildings will be lighted by gas from the asylum works, and the water-supply will be furnished by the well on the estate. The heating will be by low pressure steam, radiators being employed in the day rooms and dormitories, and pipes in the single rooms. The hot-water supply will be delivered by a forced circulation. Besides the steam heated radiators, both central and ordinary fireplaces are to be installed, and I may mention that the central stove is particularly well adapted for use in wards and dormitories.

The arrangements for ventilation are simple, and I repeat them here because of

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the excellent results obtained from similar arrangements in other buildings I have designed. All radiators and pipe circuits have adjustable fresh-air inlets, and there are also fresh-air inlets provided below the window-sill levels in the day-rooms, dormitories, single rooms, and stores. The outlets from all important rooms except the single rooms are in the ceilings, and these openings are fitted with curbs and baffle plates to prevent down draughts, and from the roof spaces the heated air which rises from the occupied apartments finds its way into the open atmosphere through the louvred ventilators which are shown on the ridges. The outlets from the single rooms are the gratings over the doors.

All the buildings occupied by the patients are of single floor height, the design being a plain one, Fletton bricks being used for facing work and ordinary tiles for roofs. The disposition of the wards and dormitories is such as to obtain the maximum advantages of sunlight and air. The day rooms have a south by west aspect, and it will be seen that both dormitories and day rooms are arranged to obtain cross ventilation. Verandahs are to be erected at each building for the benefit of the more helpless patients. There are no special arrangements of the buildings to which your attention need be called, unless it is in the method of access to the sanitary annexes, where the disconnecting corridor is accessible both from day-room and dormitory. The administrative block includes the quarters and offices for a medical officer, staff offices, nurses' messroom, and the general bathroom, the dressing-room of the latter being also the visiting room. The bath house is to be equipped with spray baths, but there will be a slipper bath in each ward also.

The treatment of the site for the five grouped buildings necessitated some consideration, as it had originally a fall of 34 ft. in 712 ft., or 1 in 20·9, and although the temporary buildings were erected upon it, the difference in the levels of the wards was such that the corridor connecting them could not be comfortably negotiated. To improve this condition I designed the buildings at the lower part of the slope to stand well above the ground and at the upper part below the level. The ground excavated from the upper part has been used to raise the level of the lower, and by this means something approaching a series of plateaux has been obtained which will render communication comparatively easy.

The estimated cost of the buildings, with which is included everything but furniture and clothing, namely, buildings, fittings, padded rooms, roads, paths, fencing, etc., is £130 per bed, and in considering this cost it must be borne in mind that one half of the accommodation is entirely for infirmary cases, and, as you are aware, the accommodation provided on infirmary lines is 33 per cent. greater than for chronic patients.

In the discussion which followed the reading of this paper, the President, Drs. Thomson, Elkins, Robert Jones, J. F. Dixon, Hubert Bond, Donaldson, Seward, and Steen took part.

Mr. Clifford Smith, in his reply, stated that the reason gas was to be used in place of electricity for lighting purposes was that they had a gas plant already in position, and the expense would have been much greater had electricity been used. He then dealt with the discussion which had taken place with regard to the best means of heating asylum wards, and expressed himself as well satisfied with central stoves, which were not only valuable as heating arrangements, but were also excellent for the purposes of ventilation. The advantages and disadvantages of heating by steam and hot-water systems was then dealt with, and he expressed the opinion that in the future a minus pressure steam system would come into vogue and be most satisfactory.

Dr. Harvey Baird read a paper on "Some Observations on Insanity in Jews" (see page 528).

In the discussion which followed, the President, Drs. Robert Jones, Seward, Hubert Bond, Donaldson, Stewart, and Steen took part.

Dr. Baird having replied,

The President announced that Dr. Thomson's paper on "A few Remarks on the Teaching of Psychiatry," had been postponed till a future date.

In the evening many of the members dined together at the Café Monico. Among the members were Drs. Bower and Edwards, who had been unavoidably prevented from attending the meeting.

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SOUTH-WESTERN DIVISION.

THE SPRING MEETING of this Division was held at Barnwood House, Gloucester, by the kind invitation of Dr. Soutar, on Friday, April 24th, 1908.

The following members were present: The President, Drs. Bond, Braine-Hartnell, Henley, Lavers, MacBryan, Marnan, Nelis, Soutar, Stilwell, Townsend, and Aveline.

The chair was taken by the President.

The following candidate was elected an ordinary member of the Association:

Henry Felix Fenton, M.B., Ch.B.Edin., Assistant Medical Officer, Worcester County and City Asylum, Powick. Proposed by Drs. Braine-Hartnell, Taylor, and Thomson.

Dr. Aveline was re-elected Hon. Divisional Secretary, and Drs. Goodall and Bullen representative members on the Council.

Drs. Nelis and Morton were elected to fill vacancies on the Committee of Management.

The Autumn Meeting was fixed to be held at Bath on October 30th, 1908, and the Spring Meeting at the Newport Borough Asylum, Caerleon, by kind invitation of Dr. Nelis, on April 30th, 1909.

Dr. Townsend read a paper entitled "Notes on Sedatives and Hypnotics." He stated that he did not class himself with those who entirely discarded the use of sedatives and hypnotics in the treatment of mental disorders, but, on the contrary, he believed that the judicious and carefully considered use of these drugs was essential to the most efficient treatment of many cases. He dwelt upon the frequency of insomnia as an early symptom of mental disease, and he expressed his opinion that many cases of mental trouble might be averted if this sleeplessness was overcome. In fully developed cases of mental disorder coming under care in hospitals and asylums, sleeplessness manifested itself both in deficient amount and in defective quality of sleep, and he considered in detail the various drugs which are used to combat this trouble, and pointed out that the selection of the drug was dependent upon condition and circumstances, which called for particular consideration in every individual case.

Alcohol, paraldehyde, sulphonal, veronal, chloral, the bromides and hyoscine were separately considered, and the practical utility of each was dwelt on with reference to the condition of the patient, and the general conclusion reached was that paraldehyde effectively met the requirements as an hypnotic more fully and in a larger number of mental cases than any of the other drugs discussed. The necessity for using sedative drugs by day to control undue motor and mental restlessness leading to exhaustion was insisted on, and the beneficial effects of this treatment were exemplified by many instances. Dr. Townsend contended that we should not be deterred from the use of these drugs by dread of the opprobrium of chemical restraint, a term which had its origin in the abuse of these drugs. He gave examples of the type of case in which sedatives by day should, in his opinion, be used, and pointed out that after all the number was comparatively small, but he contended that to neglect giving sedatives and hypnotics to these patients would be to fail in efficient treatment.

The PRESIDENT said he was quite sure there could be but one opinion, and that was that they had listened to a most interesting and valuable paper. It was one of those papers which brought home to the members of the Association their daily work, but it had done much more than that. He considered that Dr. Townsend had that afternoon touched upon some of the most difficult problems with which the members as physicians to the mentally afflicted had to deal. Dr. Townsend had told them of those cases in regard to which each and every one of those present must often have said: "What can I do with this patient?" He had told them how he had overcome those difficulties, and he thought his hearers would agree with him when he said that the instances Dr. Townsend had given of the methods adopted certainly showed that in his hands they had proved successful. He was very glad to hear Dr. Townsend say that while he used sulphonal, he did so sparingly. He did not mean to say that sulphonal was not a useful drug, but he did look upon it, at any rate in his own experience, as one of the most

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dangerous drugs they had to use. That being so, they could not but strongly condemn the scandalous use which was made of the little pocket bottle with a tiny cork by so many people, not only of the male sex, but, he feared, of the other sex also. Dr. Townsend also touched on the dangers of hyoscine, and he mentioned the dread which was sometimes experienced in regard to its administration. Hyoscine sometimes reduced a patient to a condition absolutely akin to epilepsy, and he did not think it was a very safe remedy to use. He was also very pleased indeed to hear Dr. Townsend say that where there seemed to be a chance of recovery he used sparingly everything in the nature of sedative and hypnotic drugs.

Dr. Bond said that he also had been much interested in listening to Dr. Townsend's valuable paper. The description given of the use of sedatives and hypnotics in Dr. Townsend's hands was, he felt, a very faithful picture of his own experience, and he cordially agreed with most of what the reader of the paper had said. He thought most of them must feel that in paraldehyde they had a very valuable ally. Dr. Townsend deprecated the use of sulphonal, but he thought that much of its dangers—and he agreed they were very great—had been through the difficulty of watching individually the patients who were taking it. He believed that so long as they did that and made certain of two points—firstly, that the bowels were acting freely, and secondly, that the patients were getting sufficient exercise—they need not fear so much the dangers of the drug, the existence of which he freely admitted. He thought that the same principle applied also to the bromides. He quite agreed with what Dr. Townsend said with regard to hyoscine. Along with that drug he did not mention one which he supposed hardly anybody would ordinarily put in the category of sedatives, but which he had given with advantage in certain maniacal states associated with extreme frenzy—he alluded to apomorphine. Given in small doses the sedative effect of apomorphine was very great. A tenth or twentieth of a grain could be given, and provided there was no cardiac weakness he was sure that drug was valuable in certain cases. Dr. Townsend said he was not going to deal with the question of indirect sedatives or hypnotics. As he happened to have had considerable experience of the use of verandahs attached to wards, he would like to emphasise the value of fresh air and sunshine as a hypnotic. He had no doubt at all but that the provisions of such verandahs reduced the call for hypnotic drugs.

Dr. Aveline also thanked Dr. Townsend for his interesting paper. Although Dr. Townsend said there was nothing new in his contribution, some of his suggestions were very practical and useful. He was of opinion that veronal, from which they had expected so much, had proved a very disappointing drug. He had fallen back upon sulphonal as being more generally useful. One great thing about it was that it did not seem to interfere with digestion, whereas veronal did—at least, that had been his experience. In fact, in some feeding cases where sulphonal had been given he had found that the patients had taken food voluntarily almost directly after getting under its influence.

Reference had been made to injurious effects following the use of sulphonal, but he could not help thinking that they were due to idiosyncrasies such as were found in connection with many other drugs.

Dr. Soutar, who was invited by the President to contribute to the discussion, said he did not know that he could usefully add anything to what Dr. Townsend had stated in the course of his paper and the remarks made by the subsequent speakers. He had had the pleasure of working with Dr. Townsend for a good many years in dealing with a great many cases, and his paper was a very faithful epitome of the practice which they had pursued in that period. There were, perhaps, one or two very mild reservations which he might make. Of course, no two men could be absolutely agreed in regard to such an important subject as the administration of hypnotics and sedatives; and he thought they were all more or less biased—and bound to be biased—by the recollection of one or two particular cases in which they had either had almost unexpected success or unexpected failure. He could go back a bit farther than Dr. Townsend—fortunately for the latter—and he remembered the time when chloral was much more freely used than it was now. He could also recollect some extraordinary benefits which were derived from the use of chloral. Therefore he was not quite so positive that chloral was a drug which ought to be eliminated from their use in the treatment of mental disorders.

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He remembered a type of case, not so common now as it used to be, which was characterised by what might be described as explosive mania, the patients being very violent and destructive. Very often those patients displayed before the actual explosions occurred certain danger-signals which enabled precautionary measures to be taken in time, and in that type of case chloral acted better than any other drug he knew. With regard to what had been said about hyoscine, before they had that drug hyoscyamine was used, and he had seen some very unsatisfactory results therefrom—nothing fatal, but certain results which made one reflect as to the advisability of continuing its use. Then came the introduction of hyoscine, and since they had used it they had undoubtedly got rid of those paralytic results which had previously obtained. With hyoscine, however, they did undoubtedly get a condition of terror induced in the patient which made it a cruel drug to use. The patient undoubtedly suffered very much from mental torture and dread in the case of the use of hyoscine, apart altogether from any question as to the drug not being pure. He was rather pleased—though sorry from the point of view of the variety which such remarks would have imparted to the discussion—that in the South-Western Division there seemed to be nobody who was prepared to champion the abolition of the use of sedatives and hypnotics in the treatment of mental disorders. How any man could think he was doing full justice to his cases by proceeding upon such a theory as that he must not and ought never to use a hypnotic or sedative to patients suffering as those did who came under the treatment of members of that Association, he must say he really could not understand. Was a patient who was all day long tortured by most acute mental disturbances, dreads, and fears, to be permitted to go through the night in that terrible state without steps being taken by means of a sedative to induce sleep? The very fact that they were able to give rest for six, seven, or eight hours from that misery was in itself an advantage to the patient, who was thus given a chance of improving in condition and steadily proceeding towards recovery. In the use of hypnotics and sedatives, as in that of aperients or anything else, they had to consider each individual patient; they had to decide what was the right thing to do for that patient and then do it. He thought there was rather a tendency in their speciality to get hold of a theory and try to square the facts with that theory, instead of recognising that each case should be considered upon its own merits and dealt with accordingly. As he did not say that every case should be treated in the open air, given exercise, or put to bed, so he did not assert that each patient should be given a sedative or hypnotic, and so on. He wished to emphasise the point that each case should be considered on its own merits, and the applicability of all or either of the available methods of treatment duly taken into account; whether it was a question of giving castor oil, cascara, or anything else, was a matter for individual consideration and decision. With regard to the use of paraldehyde, one way in which it had been of service had been in the treatment of patients who required to be fed forcibly, and who had a tendency to vomit their food. By the use of paraldehyde in such cases they had been able to overcome difficulties hitherto experienced in regard to vomiting. With reference to the use of bromide, Dr. Townsend had mentioned one case. As those present knew, a great many melancholic patients dwelt upon their supposed miseries to such an extent that a certain brain habit became established. The particular case to which Dr. Townsend referred was that of a lady who had given continued expression to her mental misery. As time went on she increased in weight, and, physically, was looking much better. It was noticed that her expression of mental pain was entirely voluntary; the involuntary expression, which was characteristic of the earlier stages of the illness, was no longer observed, and they came to the conclusion that a brain habit had been established. Of course they usually sought to remove those brain habits by diverting the patient's attention, by endeavouring at a certain point to get the patients to take an interest in something else, such as a garden, etc. In the case to which Dr. Townsend referred they could do nothing of the kind. It was found necessary to completely "bowl over" the patient by means of large doses of bromide; and when the influence of the bromide was removed it was found that the brain habit had been interrupted, and from that time the patient steadily improved. As to the value of fresh air, sunshine, and exercise, he believed the reason why all who were accustomed to asylum work had for giving so few hypnotics was that they recognised the value of such drugs as an ultimate resort when the other methods

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had failed. But that they should resort to them when necessary for a patient he had not the slightest hesitation in saying.

Dr. NORMAN LAVERS added his congratulations and thanks to Dr. Townsend for his very valuable paper. He remarked that in the use of paraldehyde he thought there was sometimes a tendency to gastric catarrh. He had noticed the symptom, and while it had been attributed to other causes he was forced to the conclusion that paraldehyde was the cause of it. The gastric catarrh certainly got better when the paraldehyde was stopped. In the acute excitement of general paralysis, he thought unless they gave a sufficiently large dose of paraldehyde at once a smaller and inefficient dose was likely to increase the excitement. With regard to hyoscine, he had had a run of rather trying experiences with that drug. Two or three cases showed alarming attacks of heart failure, and afterwards he always gave hyoscine in combination with digitalin. He found the combination was rather better; in fact, he had had no more of those alarming symptoms for some time. Sulphonal he had given up practically because, contrary to the experience which had been mentioned that afternoon, he thought it had a considerable effect on the gastric secretion and was rather apt to cause distaste for food—to increase the difficulty of getting a patient to take his or her food. However, he might have been unfortunate in that respect. One other point: he thought, perhaps, that opium was not altogether to be condemned; he thought there were cases, especially those of restless melancholia, in which it could be given with some amount of success.

Dr. TOWNSEND, in replying on the discussion, said he was very much obliged to those who had taken part in it for the kind manner in which they had received his paper. His remarks were simply intended to represent their own work at Barnwood House with regard to the actual use of drugs. Of course, as Dr. Soutar had said, they only fell back upon drugs when other things failed, and among those other things he was perfectly certain that the most powerful hypnotics of all were sunshine and fresh air. From the structural point of view, it was impossible for them to make arrangements for all patients to have that amount of open air that they could have in places where there were verandahs specially built for the purpose; but, nevertheless, they made every effort there to get patients out in the open air as much as possible. He felt very sure that, although it might be impossible or impolitic for them to treat all cases alike, where they could keep their patients in the open air they would get excellent results and the less need would they have to fly to hypnotics and sedatives in the form of drugs.

The proceedings then terminated with a vote of thanks to Dr. Soutar for his kind hospitality.

NORTHERN AND MIDLAND DIVISION.

The SPRING MEETING of the Northern and Midland Division of the Medico-Psychological Association was held by the kind invitation of Dr. Adair at the West Riding County Asylum, Storthes Hall, Kirkburton, near Huddersfield, on Thursday, April 30th, 1908, at 2.30 p.m.

The President of the Association (Dr. MacDonald) took the chair.

There were present the following members: Drs. Adair, Archdale, Cross, East, Evan, Exley, Geddes, Groves, Herbert, Kay, Colin McDowall, Mackenzie, Macphail, May, Middlemass, Pierce, Mould, Stewart, Vincent; also two visitors, Dr. Kelly and Dr. Austin Priestman.

The minutes of the last meeting were read and confirmed.

On a ballot being taken, Henry Roscoe, M.R.C.S., etc., Assistant Medical Officer, Cheddleton Asylum, was unanimously elected an ordinary member of the Association.

Dr. Bedford Pierce having expressed his wish to resign the position of Secretary to the Division, Dr. Macphail proposed, and Dr. Ewan seconded the proposal, that Dr. Adair should be appointed Secretary. This was carried unanimously.

In considering the appointment of representative members of the Council, the PRESIDENT pointed out that the rules of the Association in respect to voting papers did not appear to have been observed. He said the existing members not having served three years might be re-appointed, and on the motion of Dr.

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MIDDLEMASS, seconded by Dr. STEWART, it was proposed that Drs. Macdowall, Ewan, and Orr be re-elected as Representative Members of Council. This was carried unanimously.

Resolved, that the next meeting be held, if possible, in the Birmingham District on October 22nd, 1908, and that the spring meeting be held on April 20th, 1909. The place of meeting to be arranged by the Secretary and the Divisional Committee.

A letter from Dr. Sankey, relative to the desirability of having more meetings in the Midlands was read and considered.

Upon further consideration it was resolved that it was not desirable to proceed further with Dr. Ewan's proposal to divide the Northern and Midland Division. Dr. EWAN himself, as well as the Divisional Sub-committee, agreed that the number of members in the Division was not sufficient to justify any change being made.

The PRESIDENT made a feeling and fitting reference to the loss the Division and the profession had sustained by the death of Dr. MacLeod, late of Beverley. He went on to say that underneath that fine and true Highland surface there was the most lovable and kindly nature, a fine character, a true friend, and the best of companions. He proposed that a letter be written expressing the sympathy of the members with Mrs. MacLeod and family, and the members present signified their assent to the vote of condolence by silently rising in their places.

CONTRIBUTIONS.

Dr. GUY R. EAST, of Northumberland County Asylum, Morpeth, read a paper on "A Case of Cretinism," illustrated by photographs (see page 570).

The PRESIDENT (Dr. MacDonald) remarked upon the rarity of cretins in asylums, and that after careful enquiry he had not found a single case in Dorset.

Dr. MACPHAIL joined in the discussion, and

Dr. EAST replied.

Dr. COLIN MCDOWALL, of the City Asylum, Newcastle, read a paper upon "The Occurrence of General Paralysis in Father, Mother, and Son" (see page 562).

In the discussion which followed,

The PRESIDENT (Dr. MacDonald, Dorset) suggested that there was not sufficient proof that syphilis was present, and he did not accept the proposition "no syphilis, no general paralysis." He could name cases of general paralysis in country districts in which he was satisfied there was no syphilitic taint. He said it was remarkable that the mother had such a long period of excitement.

Dr. MIDDLEMASS (Sunderland), remarked on the long history in the mother's case and the weight of the son's brain (65 oz.) was unusual. He quoted a case of a congenital imbecile developing general paralysis in Morningside Asylum.

Dr. GILBERT MOULD (Rotherham) continued the discussion, and

Dr. COLIN MCDOWALL replied.

Dr. HAROLD R. CROSS, Senior Assistant Medical Officer at Storthes Hall Asylum, Huddersfield, showed two interesting cases, one presenting marked conical cornea; the other atrophy of the right deltoid and weakness of the muscles of the arm, the cause of which could not be ascertained.

Dr. MICHAEL WILLIAM KELLY, Assistant Medical Officer at Storthes Hall Asylum, also showed two cases. L. K—, a boy, æt. 14, with petit mal. During the attacks, which last about twenty seconds, he uses bad language. He wakes at night with a shout as if dreaming, but states he does not dream. Sometimes he has twenty of these attacks during the night; at other times he may go four or five weeks without a fit. L. R—, female, æt. 39. January, 1906.—Acute melancholia with active suicidal tendency. September and October, 1906.—Refused food and tube fed, and appeared to be becoming demented. Transferred to Storthes Hall, March 5th, 1908, began to take interest in her surroundings, and now appears on the road to recovery.

Dr. BEDFORD PIERCE's remarks upon a case of "Automatic Wandering" were deferred, and a hearty vote of thanks to Dr. Adair for his hospitality concluded the business of the meeting.

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MANUAL FOR NURSES IN HOSPITALS FOR MENTAL DISEASES, BY DR. JULES MOREL.

In regard to the footnote to the review of this manual in our last issue we are requested by Dr. Morel to state that the Superioress of the Sisters of Charity paid the printing expenses of copies of his manual for the Sisters engaged in nursing the insane in their asylums.

CARE AND TREATMENT OF THE INSANE.

The Third International Congress for the Care and Treatment of the Insane will be held at Vienna from the 7th to the 11th October, 1908.

The Council of the Medico-Psychological Association have been asked to nominate a Committee to represent the Association. It will facilitate the formation of such if members, intending to be present or willing to read or send a paper, will kindly *at once* notify the General Secretary of their intention.

THE SIXTEENTH INTERNATIONAL MEDICAL CONGRESS.

This Congress will be held at Budapest from the 29th August to the 4th September, 1909. The General Secretary is Professor Emil Grósz, M.D., Budapest, viii, Esterházyutcza 7.

NOTICES OF MEETINGS.

Medico-Psychological Association.

The sixty-seventh Annual Meeting of the Association will be held on Thursday and Friday, 23rd and 24th July, 1908, at the rooms of the Association, 11, Chandos Street, Cavendish Square, London, W., under the Presidency of Dr. Charles Mercier. There will be meetings of Committees as follows:—On Wednesday, 22nd July, Criminal Procedure Committee at 2 p.m., Parliamentary Committee at 3 p.m., Educational Committee at 4 p.m. The Council will meet at 9.30 a.m. on Thursday, 23rd July.

The Annual Meeting will commence at 11 a.m. on Thursday, 23rd July, when the usual business of the Association will be transacted.

Notice of motion by Dr. D. G. Thomson: That for the more efficient teaching and training of the coming generation of Alienists in Psychiatry, the Medico-Psychological Association—in the first instance, through its Education Committee—consider some scheme for post-graduate teaching and training, with or without the imprimatur of a diploma given after such a course (with or without examination) with a view to its being brought before the Universities and other qualifying and teaching bodies.

(Dr. Thomson's paper leading up to this motion, which was read at the last Quarterly Meeting, appears in this number, see page 550).

2 p.m.—The President's Address, after which the adjourned discussion will take place on "Boarding-out of the Insane in Private Dwellings," on which a paper, with lantern illustrations, was given by R. Cunyngham Brown, M.D., at the meeting held last February (see page 532).

Friday, 24th July, at 11 a.m.—Robert Jones, M.D., F.R.C.P.(Lond.), F.R.C.S., will initiate a discussion on "The Case against Dementia Præcox." Lewis C. Bruce, M.D., F.R.C.P.(Edin.), will introduce a discussion on "Folie Circulaire and Manic-depressive Insanity—their identity?, and the Relation of the Depressed to the Elevated Stage." Alan McDougall, M.D.(Vict.), will read a paper "On the Principles of the Treatment of Epilepsy."

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Afternoon, 2 o'clock.—Lady HENRY SOMERSET has kindly consented to open a discussion on "Some Aspects of Inebriety." FRANK ASHBY ELKINS, M.D. (Edin.), will read a paper entitled, "Asylum Officials—is it necessary or advisable for so many to live on the premises?" HORATIO B. DONKIN, M.A., M.D.(Oxon.), F.R.C.P., will kindly give an account of the work of the Royal Commission on the Care and Control of the Feeble-minded.

The Annual Dinner will take place on Friday, 24th July, in the Grand Hall, Criterion Restaurant, Piccadilly Circus, at 7 for 7.30 o'clock.

An innovation is being made this year in that there will be several ladies among the guests of the Association: it is, therefore, hoped that as many members as possible will each be accompanied by a lady, and that the lady members of the Association will be present.

N.B.—Places cannot be guaranteed to those who apply later than the 10th of July, and members are requested to notify to the General Secretary their intention of dining. (Tickets, wines included, One Guinea; for ladies 15*s*.)

South-Eastern Division.—The Autumn Meeting will be held, by the courtesy of Dr. Elkins, at Leavesden Asylum, on Tuesday, 6th October, 1908.

South-Western Division.—The Autumn Meeting will be held at Bath, on Friday, 30th October, 1908.

Northern and Midland Division.—The Autumn Meeting will be held on Thursday, 22nd October, 1908.

Scottish Division.—The Autumn Meeting will be held on Friday, 20th November, 1908.

Irish Division.—The Autumn Meeting will be held on Saturday, 7th November, 1908.

APPOINTMENTS.

Campbell, Robert B., M.B., C.M.Edin., Medical Superintendent, Stirling District Asylum, Larbert.

Donelan, John O'Conor, L.R.C.P.&S.Irel., Resident Medical Superintendent, Richmond Lunatic Asylum, Dublin.

Gray, Theodore, M.B., Ch.B.Aberd., Assistant Medical Officer to Kingseat Asylum.

Mackenzie, Theodore Charles, M.B., F.R.C.P.Edin., Medical Superintendent of the Inverness District Asylum.

Murphy, Edward E. A., L.R.C.P.Edin., L.M., L.R.C.S.Edin., L.F.S.Glasg., Assistant Medical Officer to the Devon County Asylum, Exeter.

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THE

JOURNAL OF MENTAL SCIENCE

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Part I.—Original Articles.

The Presidential Address, on The Physical Basis of Mind, delivered at the Sixty-seventh Annual Meeting of the Medico-Psychological Association, held in London on July 23rd and 24th, 1908. By CHARLES MERCIER, M.D., F.R.C.P.

IN whatever field of research man prosecutes his labours, in whatever direction his energies are pushed, he finds himself at last brought up against a barrier of unfathomable mystery. If he contemplates the universe at large, he finds the orb of Earth on which he lives is but an infinitesimal speck, and he is in the presence at once of infinite extension in Space, and infinite duration in Time, both of which are to him but verbal expressions, whose meaning he is for ever precluded from comprehending. If he contemplates the properties of matter, and investigates its constitution, he speculates that it consists of molecules, that the molecules are constituted of atoms, and that the atoms are compounded of ions of negative electricity; but of these ions he can form no mental picture, and practically his knowledge or his speculations amount to this, that every small part consists of smaller parts, and every smallest part, whatever he may call it, is little, if anything, more than a metaphysical abstraction. However far this process of imaginary division may yet be carried, we are still immeasurably distant from any solution of the problems of what matter consists of, and of why it offers to us Resistance.

But of all the mysteries by which the mind of man is bewildered,

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the mystery of mysteries is the constitution of mind, and the nature of the connection between mind and matter. It is the practical aspects of this connection that confront us in our daily work. We cannot move a step in dealing with our patients except we take for granted some hypothesis of the connection between mind and matter. Yet of the constitution of matter we are profoundly ignorant; and we have but a dim and imperfect knowledge of the action of one portion of matter on another. We speak glibly enough of chemical combination, cohesion, surface tension, and so forth, but of the intimate nature of these processes we know nothing. We can gain no concept of the nature of mind, and we have but a dim and imperfect knowledge of the modes in which it works. Yet the whole validity of the daily treatment of our patients depends on the view we take of the relation of one of these inscrutables to the other, and of their action on one another. To speak of the action of either on the other is, to many, to beg the whole question; but yet that they do act on one another is neither more certain nor less certain than that matter exists. No aspect, quality, or faculty of mind is more characteristically mental than Desire; and it is owing to the operation of desire that cities are built, that networks of railways intersect the civilised world, that countless ships traverse the ocean, bearing cargoes of incalculable wealth to innumerable ports. It is, in short, for the satisfaction of desire that all the labours of man are undertaken. Judge, then, if mind does not act upon matter. That matter acts upon mind seems proved by every experience we have of sensation, and sensation is the raw material, if not of all consciousness, at least of all knowledge. So that the interaction of mind and matter is just as certain, and no more certain, as that matter exists apart from mind, and mind exists differentiable from matter.

What are the ultimate relations of mind and matter I do not propose now to examine. The problem is one of the insoluble fundamentals already alluded to, and the various hypotheses advanced to resolve it are verbal propositions only, which, in as far as they arouse any answering concepts in our minds, fail to command our assent; and, in as far as they do not arouse answering concepts, are *flatus vocis*. The current hypotheses are three in number: Dualism, the essential separateness of mind and matter, which, however, act and react on one another; Monism, the essential identity of mind and matter as obverse

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and reverse aspects of one substance or process; and Parallelism, the utter disparateness of mind and matter, whose processes are separated by an impassable gulf, but yet move in perfect simultaneity and harmony with one another.

It may relieve your minds when I say that to these three hypotheses I have no intention of adding a fourth. Whether or no they exhaust the possibilities I do not propose to inquire. I take for granted that there is an association, and more, a causal connection, between the material processes of the brain and the operations of mind; and taking this for granted, I propose to put before you, and support by such evidence as I am able to adduce, certain speculations as to the kinds of material change in the brain that correspond with definite kinds of mental operations. If it is true that mental changes are always and invariably accompanied by, and correspond with, brain changes, then it is probable that a certain kind of mental change will always be accompanied by, and correspond with, a certain specific mode of material brain process. The connection between mind and brain, if it is true at all, pervades throughout. Whatever its nature, if it is true *simpliciter*, it is true *secundum quid*. What I propose to do is to follow the connection somewhat into detail, and try whether it is not possible to discover a connection, not merely between brain-change and mind-change, which everyone now assumes, but between specific modes of brain-change on the one hand, and specific modes of mind-change on the other.

A necessary preliminary to this task is to set forth the main fundamental divisions, modes, or faculties of mind; for it is manifest that not until we have separated them out can we speculate as to the material accompaniments or correspondents of each. The division that I shall adopt as most convenient is that set forth in my book on *Psychology*, and I need not now give the reasons which seem to make it most appropriate for my purpose.

The basis of mind, the ultimate origin out of which all other faculties seem to me to have been evolved, is the tremendous experience of Pleasure and Pain. Immediately connected with pleasure and pain, and, as I think, arising out of them, are the members of the next couple—Desire and Aversion, the prompters and motives to all forms of action. Desire and aversion are the motives of all action but though they prompt to action,

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and though without them there would be no action, they do not themselves directly excite action. Desire and aversion may be long dormant, felt, experienced, but inactive. Action does not follow unless and until they obtain the sanction of Will, and it is will that is the immediate predecessor—I must go further, and say that it is the immediate cause—of action. Action gives rise to experience. By action we are brought into relation with change in incident forces; and change in incident forces produces Sensation, the raw material of Perception and of all other forms of Thought. Lastly, we have to recognise mind as a continuum, and as known as such. Present consciousness owes its existence to past consciousness, and is moulded into what it is by past experience. While the vividness of present consciousness is owing to present experience, the whole form and bulk and content of present consciousness is a remanet from the past; and the continuance or the revival of past conscious experiences is conscious Memory.

These, then, are the modes of consciousness for which we have to find answering modes of nervous activity—Pleasure and Pain, Desire and Aversion, Will, Sensation, Thought and Memory.

Let me take first the last that has been named, since it is the easiest, and the one about which there is general consent. It is agreed that when a process—at any rate a process of thought or of sensation—takes place in the mind, and an answering process takes place in the brain, this brain-process, whatever it is, leaves in the structure of the brain a permanent alteration, much as, when a man walks over previously untrodden snow, a permanent print of his footsteps will remain as long as the snow is unmelted; or as, when a hatpin is run through a cheese, the hole in the cheese remains after the hatpin is withdrawn. Whenever this path in the brain is retraversed, the brain-process is very much the same as when it was traversed for the first time, but in some respects it is different, for it now follows a beaten track, whereas on the first occasion it had to make its own way. And as the brain process is very much the same, but is in some respects different, so is the mental process. The thought is the same, but—and this is the difference—it is known to be the same. It is recognised. It is known to have occurred before. This, then, is the structural basis of memory. It is the recurrence in the

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brain of a process that had occurred before in the same part of the brain. As to that I think we are all agreed. The memory of a verse is stored in the brain in much the same way as it is stored in a phonograph—as a structural change, which is dumb until the structure becomes active again. If this is so, then it is clear that, while each memory of each event is localised in a particular area of the brain, there can be no one region of the brain set apart as a store-house for memories and for nothing else. Wherever motion passes in a novel path through the cerebral substance, there a structural modification is left; there a structural memory is formed; and when that path is re-traversed, a conscious memory arises. And as far as we know, the whole structure of the brain is adapted for nothing else but for the storage and re-distribution of motion; so that the whole brain, as far as it is organised, is full of structural memories, and as far as it is unorganised, is the possible seat of new memories. It is obviously wrong also to think of memories—of events for instance—as being stored in the cells of the brain. Structural memory is an affair of nerve paths. Conscious memory is the accompaniment of the passage of motion through these nerve paths.

While each individual memory is localised in a specific individual structure—probably a network of nerve-paths, more or less complicated, and these nerve-paths permeate the whole of the brain, so that the totality of memories is not localised in any one region, the reverse is true of Sensations, and no doubt of Percepts, which are the simplest products into which sensations are wrought by the process of thought. There seems to be no doubt, from the evidence both of experiment and of disease, that the sensations of the different senses, and probably, to a less extent, the percepts which cluster around each several sensation, are respectively localised, not only individually but as groups, in more or less defined areas of the brain. Of course, when I speak of sensations and percepts as being localised in the brain, it will be understood that I am using these expressions as abbreviations for the brain processes corresponding with the mental processes.

If it be the fact—and I think it is now generally agreed that it is the fact—that the physical basis of memory is as I have stated it, then it will appear that the only mental states and

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processes that are susceptible of being remembered, are those whose physical basis is such a passage of motion through the brain as I have described; and that if there are other mental states and processes whose physical basis is of a different nature, and does not involve a permanent structural change of this kind in the brain, such mental states or processes cannot be remembered. Now, it is worthy of note that before I arrived at this *à priori* conclusion, I had already asserted, on *à posteriori* grounds, that neither desires, nor aversions, nor pleasures, nor pains can be reproduced in memory. We can, no doubt, remember that at such a time we did experience such a desire or such a pleasure, but I averred in my book on *Psychology*—and if anyone should ever read it he will bear me out—that we cannot reproduce in memory the desire itself or the pleasure.

The only mental processes that can be reproduced in memory are the factors of experience—sensations, thoughts, and volitions.

Of *Sensation* the mind has a separate and distinct appreciation and discrimination of various modes—light, colour, sound, smell, taste, touch, tickling, temperature, muscular sense, crude pains, and so forth. It is an interesting speculation to surmise what differences in brain processes underlie these differences in the quality of sensation. Do they correspond merely with differences in the areas of the brain at which the currents from the several sense organs are received? Or do they correspond with differences in the character of the currents of motion which arouse those areas to activity? Plausible arguments can be found in favour of each hypothesis, and great difficulties lie in the way of the adoption of either.

If the stimulation of one area of brain corresponds with a sensation of colour, that of another with a sensation of sound, that of another with a sensation of smell, and so forth, independently of the quality of the motion received, then it seems to follow of necessity that within the main area for colour there must be minor areas for each tint in the spectrum, at least for those who can appreciate all the tints; and that colour-blindness must be due to absence of one or more of these areas. Similarly, within the sound area must be a separate minor area for every note, and that form of sound-deafness, which means inappreciation of music, must be due to the non-development

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of these discriminate areas. The hypothesis seems crude, and it seems to require that the sensory areas should be final termini of ingoing currents, a condition inconsistent with what we know or imagine of the working and arrangement of these elevated regions.

On the other hand, it is quite conceivable that the appreciation of different sensations may correspond with differences, not in the structure or area of the brain-tissue in which the currents of motion are received, but in the quality of these currents themselves. *Primâ facie* it would seem that differences of stimuli so wide as those between the vibrations of the ether which constitute waves of light, the vibrations of air which constitute sound-waves, the chemical action which initiates the sensory currents of smell and taste, and the mechanical action that initiates sensations of touch and pressure, it would seem that differences so wide, in the action of external agents on nerve-endings, might produce differences, not so wide indeed, but still very discrepant, between the qualities of the respective currents of motion that they send inwards to the nerve centres; and this hypothesis receives countenance from the fact that, in structure, the nerves of special sense exhibit decided differences. The olfactory nerve differs from the optic, and both from the auditory portion. The fact that the stimulus of pain and that of touch have each its own path in the spinal cord is consistent with either hypothesis; as is also the fact that the receptive nerve-endings on which the stimuli are received are widely different. It is manifest that the conversion of the fine waves of the ether into nerve-currents requires a converting apparatus very different from that which transforms the coarse aërial vibrations of sonority. It is *à priori* improbable that the impulses transmitted by different nerves belonging to the same system should be very widely different in character.

In any case we may rest secure in the conviction that the physical basis of Sensation is the reception of ingoing currents at the highest level at which currents remain afferent. At some point in their career the currents are reversed, and, after change and recombination, become efferent. Sensation arises, we may feel confident, when this point is reached.

The physical basis of *Thought* presents little difficulty. It is agreed on all hands that the process of thought is the

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establishment of relations between mental states. It is universally admitted that thought is comparison. It is the juxtaposition of two or more mental states, and the consequent discernment of likeness or unlikeness between them. Now, if, as is agreed, the existence in the mind of any mental state is conditioned by the activity of an area of grey matter, it seems to follow as of course that the juxtaposition in the mind of two mental states is conditioned by the activity, in immediate succession to each other, of two areas of grey matter; and this immediate succession of activity can be brought about no otherwise than by the spread of motion from one area to the other. The ease with which two thoughts can be juxtaposed will correspond with the permeability of the medium between the two areas of grey matter which severally underlie them; and conversely, the difficulty of juxtaposing and comparing two thoughts will lie in the barrier presented by an impermeable medium between the area that is active and the area to which the activity is to be spread, and in which the activity is to be aroused. Herein we see the reason of the eminent memorability of thoughts. If the establishment of a new thought is, on its physical side, the extension of activity, that is the transference or spread of motion, from one area to another, then this motion spreads through certain channels, or passages, or lines of less resistance, burrowed out then and there for the purpose; and the repetition of this transference through these same channels, which, after once being traversed, remain more or less patent and permeable, is the physical basis of Memory.

So far our progress has been plain sailing. The nature of the physical bases of *Memory*, *Sensation*, *and Thought* are not difficult to conjecture, and the surmises that I have suggested are, I think, generally admitted to be probable, and to represent, as nearly as we are ever likely to approximate, the true state of the case. But with respect to the remaining factors of mind the case is different. There is no general consensus of opinion as to the physical changes in the brain that underlie and accompany the mental experiences that we know as *Will*, as *Desire*, and as *Pleasure* and *Pain*. Here our ground is very uncertain, and here we must proceed at once with hardihood and with circumspection. Here, too, it is evident that we are dealing with mental factors of a somewhat different character. Our means of communication with one another leaves us in little

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doubt that our sensations, thoughts, and memories are so much alike in different people that they may, in a sense, be regarded as common to all. The blue of the sky, the green of the foliage, the red of the sunset are the same to you as they are to me. The witty juxtaposition of two incongruous thoughts affects you precisely as it affects me. And if the originals are thus alike and thus common, so, too, are their reproductions in memory. Moreover, all these factors in mind, or rather these products of mental action, are by us objectified. They are regarded rather as our possession than as ourselves. As I have said in another place, we speak of a man having a thought or a memory in his mind much as we speak of his having a sovereign in his pocket. It belongs to him, but it is no necessary part of him. Before he had it he was the same man that he is now. If he should lose it he would still be the same man. But, with the mental factors that we now have to consider, the case is different. If you have conceived a new thought, you can communicate that thought to me, and then I have the same thought. I can send it on; "'twas mine, 'tis his, and may be slave to thousands." But the desire that you have in your heart, that you cannot communicate, that is yours, and yours alone. I, too, may have a desire, and for the same thing, but our desires are not common; they are not communicable; they are not shareable; my desire is not a possession of mine that I can acquire and lose and still remain the same. It is a part of my very self. Now I have it, I am different in character and personality from what I was before. If I lose it, my character and personality are changed again. And so with respect to volition. My will is my own, but it is not a possession or acquisition of mine, as is a thought, or a memory, or a sensation. It cannot be communicated from without; it can only arise from within. It is a part of my very self. It is myself. It is the expression and outpouring of my whole personality. None can share it; none can have it in common; to none can I communicate it. I can communicate the knowledge of it, but not the will itself. And so it is of pleasures and of pains. You and I can feel pleasure in the same experience, can be pained by the same event. I can, by pleasurable news, arouse pleasure in you, and by news of disaster I can give you pain. But the pleasure you experience is your pleasure, not mine; and though we both feel pain, the pain is not common, but yours is yours.

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and mine is mine. They are not common, and they are not comparable, for the pleasure or the pain is an affection of the self, of the subject, and it is the object consciousness alone that is communicable to others.

The three factors of experience have already been stated to be the reception of motion from within, the re-distribution of motion within the brain, and the emission of motion outward from the brain. With the first factor, the reception of motion, and its wash upon the shore of the highest regions of the brain, corresponds the mental factor, sensation. As to that we are agreed. With the second factor, the re-distribution and re-combination of motion into new arrangements, corresponds the mental factor, thought. As to that there is no difference of opinion. It seems an irresistible inference that the third material factor, the emission of motion to the musculature, should have for its mental correlative the third mental factor in experience, *viz.*, volition, and this inference seems unimpeachable. That the act of willing, the internal crisis, as Sir FitzJames Stephen well calls it, the exertion of the whole self in a certain direction, the up-springing and out-pouring of mental activity, which seems to arise from a fountain in our innermost being—that this is in experience associated with an emission of energy from the superior nerve regions, seems too clear to admit of doubt or discussion. Not only is every purposive movement preceded by an exertion of will; not only are very many exertions of will instantly followed by muscular movement; but even those exertions of will that are not at once followed by conspicuous and manifest muscular movement are shown, by the researches of muscle readers, to be associated with perceptible muscular tensions, which prove the reception of energy by the muscles. About the association of emission of motion with volition there cannot, I think, be any doubt. The doubt arises when we ask the nature of the association, and here we are brought up once more against the three hypotheses already stated. Does the mental process precede and determine—why should we boggle at a word and hesitate to say cause?—the nervo-muscular action; or are the two but two aspects of the same process? or do they but occur simultaneously and parallel with each other, on the hypothesis of Leibnitz? For my own part I must confess that, after five and thirty years or so of consideration of this excruciating problem, after having inclined

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in turn to each, after having, many years ago, publicly, and, as I thought, finally, embraced the hypothesis of Leibnitz, I am now grown too old to be cocksure; but year by year I more and more incline to the hypothesis of dualism. It seems to me most consistent with the doctrine, now far too lightly treated, far too often impugned, directly or indirectly, by members of our profession, the doctrine which is at the base of all morality, and therefore the foundation on which all society is built, the doctrine of the inescapable responsibility of every individual human being for his acts. *His* acts. It seems to me that the use of this expression either settles or begs the question. If my act is my act, it is the act, not of my body—for that can act without my consent and without my knowledge—it is the act of me, of my self, of my whole personality expressing itself in my volition. It is an outpouring of my personality through the avenue of will, through the channel of grey matter, through the medium of the musculature, in resolute, purposive action. I find it increasingly difficult to reconcile such action with the hypothesis of parallelism; and though I do not plump for an interacting dualism, I should never quarrel with those who do, but rather should regard them, as I regard the authors of the Athanasian Creed, with envy for the uncompromising certainty of their convictions.

Leaving now the physical basis of volition let us turn to that of desire.

In this case we are assisted to a certain extent by experimental evidence. Certain fundamental and representative desires there are, whose physical basis is clearly indicated by the circumstances under which they arise. Of all Desires, the most fundamental, the earliest in origin in the race, though it appears late in the individual, the fertile parent, as it seems to me, of all other desires, is the desire of sex; and the necessary condition of the sexual desire is a certain chemical constitution of the nerve regions involved. Desires of sex are not experienced until the sexual glands arrive at maturity and become physiologically active. If these glands are extirpated before the period of their activity arrives, sexual desire is not felt; and when the period of their physiological activity is over, sexual desire disappears. It is quite clear, therefore, that the desires of sex are dependent upon the existence and physiological activity of the sexual glands—of the testis and

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ovary—and the only way in which their influence upon desire is explicable is by the secretion of some chemical product, which modifies in a specific sense the nutrition of the grey matter of the convolutions, or of some of them. Upon this hypothesis, the physical basis of desire is the chemical constitution of the nerve regions involved. Of course I do not mean that the mere existence of this chemical variation in the constitution of the nerve centres is the physiological basis of desire. This can only be some subtle alteration in the mode of action of the nerve tissue, which cannot take place except in the presence of that chemical substance. But for practical purposes it seems clear that we must regard as the basis of sexual desire the action upon the nerve centres—the modification of their nutrition and of their mode of activity—that is produced by the chemical product of the sexual glands carried to the nerve centres in the blood stream.

Corroborative evidence of this view of the basis of desire is found in the conditions under which other desires are experienced. Scarcely any desires are more urgent than those of hunger and thirst, and neither of these is ever experienced except in circumstances that imply an alteration in the chemical constitution of the nerve tissue. In the case of hunger, the blood is depleted of nutritious material, and its altered constitution must be reflected in an altered molecular structure of the nerve tissue. In the case of thirst, the nerve tissue, in common with the other tissues, is deficient in moisture, and again its chemical constitution and action are interfered with and modified. In the cases of other desires, the evidence of chemical influence in the nerve tissue is more difficult to obtain, but there are cases in which it is not wholly wanting. Hybernating animals, as is well known, accumulate large quantities of fat as the period of hybernation approaches, and this is usually looked upon as an instinctive, or quasi-intelligent, preparation for the approaching hybernation, which no doubt it is. But I suggest that the accumulation of fat is not merely teleological in the sense that it is to serve as a store of nutrition during the period of abstinence in hybernation, but that it is teleological in another sense, that is to say, that the great accumulation of fat in the tissues, and the consequent accumulation of unwonted materials in the blood, so modifies the nutrition of the nerve tissue as to cause an alteration in its

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mode of action which is the physical basis of the desire for hybernation. So with respect to the migration of birds. This takes place at a settled season, and seems to be determined more by lapse of time and recurrence of seasonal conditions than by anything else; but seasonal variations bring, amongst other changes, changes of food, and changes of temperature, both of which must have, and we know do have, important influence in modifying nutrition generally; and if of nutrition generally, then in particular of the nutrition of the grey matter of the convolutions. The combative instinct or the desire of aggression and violence has been dealt with, as I am told, in the same way and with the same result as the desire of sex. It is, as I have heard, a practice among shepherds when they have a dog otherwise valuable, but rendered unsuitable by his ferocity, to remove one testis, with the result that his fierceness is mitigated, and if the effect is insufficient, to remove the other, which never fails to have the desired result. These instances seem to prove beyond doubt that some of the primary and most fundamental desires at any rate, have their foundation in the chemical constitution of the grey matter of the convolutions, and if only one desire has this physical basis, it can scarcely be doubted that the physical basis of other desires is the same in character, though no doubt the nature of the chemical constitution of the tissue is different in different desires.

If this doctrine is true, and it seems upon the face of it difficult to controvert, then we have in our hands, in the preparation of various organic extracts, a means of modifying desire, of diminishing desire that is excessive, and of reducing to the normal a desire that is morbid in direction. Cases of morbid desire are not extremely infrequent, and in some of these I have adopted a treatment founded upon this principle, and this treatment has certainly been attended with the appearance of success. I do not wish to be unduly sanguine, but I do not regard it as at all beyond the reach of human endeavour to reduce morbid desires to order by the administration of appropriate materials. If we can reduce the desire of sex and the desire of combat, as it appears we can, I see no reason why we should not eventually reduce the desire of accumulation in the miser and the desire of expenditure in the prodigal. Dr. Nicolson, in a presidential address to this Association, delivered

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from this place, declared that every crime that was tried in our courts could be referred to the influence of one of three passions —lust, rage, and greed. I submit that of these the two former could, if it were worth while to do so, be abolished, or at any rate reduced to innocuous dimensions, by operative measures; and I believe the same result can be obtained without operation. Is it too daring a speculation to suggest that some day the third may be rendered innocuous by similar means? If you think this is indeed chimerical, may I say that you have as good reason as those who, thirty years ago, would have regarded as preposterous the prediction that, before the close of the century, it would be possible to photograph the bones in the living body.

If we consider other desires of great and overwhelming preponderance, we see that they, too, arise at times and under circumstances that countenance the hypothesis that the physical state that underlies desire is a chemical change in the constitution of the nerve-tissue. It is difficult to conceive a desire more imperative than that which compels a tiny bird, whose longest flights in summer are from tree to tree, within the limits of a moderate-sized garden, to start on a journey crossing oceans and continents to a land hundreds or thousands of miles distant. Under what circumstances is this amazing feat of endurance undertaken? It occurs at certain seasons of the year. It occurs at times that have a definite relation to the nesting season—to the reproductive season. The northward journey is undertaken when the reproductive apparatus is entering upon its seasonal activity; and, as already shown, the chemical product of the reproductive glands is certainly, by its action on the central nervous system, the physical basis of some modes of desire, and if of some, why not of others? The question is most pertinent if we accept the hypothesis that I have already advanced, that this desire of reproduction is the root of all desires, the stock out of which all other desires are developed, and to which the action prompted by all other desires does, in the end, minister. So, too, the return journey of migratory birds is made at the end of the reproductive season, when all the reproductive apparatus is subsiding into quiescence, is undergoing involution, and is without doubt pouring into the blood the chemical products of its katabolic change.

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Leaving the range of normal desires, let us turn to those that are morbid, and again we shall find corroboration of our doctrine. Of all desires that are classed as morbid, which is the most widespread, the most intense where it exists, the one that is indulged in with the most reckless disregard of inevitable ill consequences? Surely the desire for alcoholic drink. The evidence that this desire coexists with, and is due to, a certain metabolic factor is very cogent. It is often alleged, it is still more often assumed, that the difference between the sober man and the drunkard is that the one possesses, and the other lacks, sufficient self-control to enable him to overcome his urgent and masterful desire for drink. The repetition from mouth to mouth, and from book to book, of this obviously false doctrine is one of the most striking instances of the ovine imitativeness of the human intellect, and of the ingrained habit of yielding unquestioning assent to authority. There are countless millions of sober men and women in the world, all of whom are ready to utter the parrot cry that they are sober because of their superior self-control, because they have the strength to resist temptation, and this they say in perfect good faith, when, if they would only think for one moment and interrogate their own consciousness in their own experience, they could not fail to know, with irresistible conviction, that in fact they are not tempted to drink at all. Drink has no temptation for them. It offers them no allurement. It yields them no delight. It satisfies no craving. The taste of it finds them as indifferent as it leaves them. They are drink-proof, not because of any superior virtue, not because of any superiority of self-control, but because drink holds out to them no temptation. And, not being tempted, they do not fall. They are no more meritorious for not getting drunk than a cat is meritorious for not wetting its feet, or a bird is meritorious for not falling to the ground. Many such persons could not get drunk if they tried. The sensations produced by the ingestion of alcohol are to them so unpleasant that they are compelled to leave off long before they have taken enough to make them drunk. If, then, the difference between the drunkard and the sober person is not a difference in self-control, what is it? Wherein does the difference consist? I submit that in this, as in all other departments of knowledge, we must postulate uniformity in the operations of nature. We must use Occam's razor, *entia non*

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sunt multiplicanda præter necessitatem. Unless we make this assumption, speculation is vain; knowledge cannot exist. What are the facts? The facts are that, on the one hand, when alcohol is applied in solution in the blood to the brain tissue of one person, there arises in that person a pleasurable feeling. When applied in solution in the blood to the brain tissue of another person, there occurs in that person no such pleasurable feeling. The feeling is neutral, or is unpleasurable, or is displeasurable. What is the inference? If the operations of Nature are uniform, the inference is irresistible—the action of the alcohol upon the brain of the one produces an effect different from its action on the brain of the other. It does not matter to the argument whether the chemical constitutions of the brains are different, so that the same substance produces on them different effects; or whether the constitutions of the blood are different, so that the alcohol arrives at the brain in different combination in the one case from what it is in the other; or whether the constitution of the liver or of some other tissue is different, so that the alcohol in the one case arrives at the brain unaltered or altered in one direction, while in the other case it arrives unaltered or altered in another direction. In any case, either the brain, or the blood, or some other tissue is so different in the one person from what it is in the other, that the action of the alcoholised blood upon the brain is different; and these actions are chemical actions. Now, in the matter of the action of alcohol upon the human body there are very few things upon which everyone is agreed. There is a large body of medical opinion which states dogmatically that the action of alcohol on the human body is always, in all quantities and in all circumstances, harmful and poisonous. There is another and very important body of medical opinion which holds that, judiciously administered in proper circumstances and in proper quantities, alcohol is a boon and a blessing to men. I do not now enter upon this controversy, though I have done so before, and am prepared to do so again on appropriate occasion. What I wish now to point out is that both parties to this controversy, who are extremely unwilling to agree on anything if they can help it, agree in this: That the craving or desire for drink does not arise unless and until drink has been tasted—has been drunk. This is true of those who have never tasted drink. They never experience the

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desire for drink until they have once tried it. It is true also of those who are compulsorily deprived of drink. The prisoners in the State inebriate reformatories do not, after a certain period of detention, experience any craving for drink while they are in the reformatory, nor do they after they are discharged experience any craving for drink until they have tasted it; but once let them taste it, and their craving starts into being as an imperious desire, which must be satisfied at any cost of decency, of reputation, of happiness of themselves or of those they hold dear. In this case again it seems that the physical basis of desire is a chemical change in the constitution of the central nervous system. Happy are they in whom this change cannot be produced!

We now arrive at the last of the primitive faculties or components of mind, and are to inquire what are the physical bases of *Pleasure* and of *Pain* respectively. Dr. Mott, in his interesting lectures on the emotions, says that "The sense of well-being of the whole personality depends on an adequate supply of blood to each and all the important tissues of the body, whereby they can function in harmonious co-operation." This is, I think, an important factor, but it is an indirect factor. From our present point of view we must ask, What is the condition of the convolutions, of the substrata of consciousness, that underlies the feeling of well-being and ill-being, of pleasure and pain respectively?

Years ago I advanced the hypothesis that the determining condition was the repletion or depletion of the highest nerve regions with energy or motion, that when the contained motion was great in quantity and of high tension, high ampèrage and high voltage, then the feeling was pleasurable; and that when quantity and tension were low, then the feeling was one of misery; but on re-consideration I doubt if this hypothesis can be sustained. Observation of the facts of disease does not bear it out. In many cases in which the feeling of misery is extreme, movements are active and sustained, showing that nervous energy is copious and of high tension; and in stupor, a state which gives evidence of utter emptiness and depletion of motion of the nervous system, consciousness is not in a state of misery—it is deficient or absent.

Pains may be divided into two classes—the crude pains of bodily injury and disease, sometimes called physical pain or

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bodily pain, and the elaborate pain of the disagreeable emotions —anxiety, fear, disappointment and so forth. There can be little doubt of the condition of the substrata of consciousness in crude pain. The convolutions are disturbed by the arrival and delivery into them of currents of motion that are excessive in quantity or abnormal in quality from the diseased or injured tissue. In the elaborate pains of fear, anxiety, disappointment, and other painful emotions, there is abundant evidence of tissue change, of disordered function, such as is consistent with a widespread alteration of metabolism, and a resulting influx from a wide area of currents of motion correspondingly altered. I need only instance the pallor, the dry mouth, the disturbance of the heart's action, and the other well-known accompaniments of painful emotion. In the misery of disease, in what we call melancholia, there is very usually abundant evidence of disordered metabolism, and I know of no case in which such disorder can be excluded. My suggestion is that the physiological substratum of pain—of the pain of painful emotion as well as of the pain of disease and of injury—is the delivery into the convolutions of currents from tissues in which katabolism preponderates over anabolism, or in which the tendency is on balance towards dissolution and disintegration.

If this is the physiological substratum of pain, what is the corresponding substratum of pleasure? Whence do we derive the feeling of well-being, of joyous elation, that is so conspicuous in some conditions of health, and so exaggerated in some conditions of disease? As I suppose, from the delivery into the convolutions of incoming currents that are vigorous, copious and well-proportioned, that speak of tissues and organs in a high state of efficiency, that tell of the preponderance of anabolism over katabolism in the body at large. Here, it seems to me, is the reconciliation of Dr. Mott's hypothesis with that which I am expounding. Tissues and organs that are in a high state of efficiency are tissues and organs which receive a copious and well-proportioned supply of healthy blood; and thus it is that, indirectly, Dr. Mott's explanation expresses a large part of the truth. Youth is the time of high spirits and abounding happiness, and youth is the time of the preponderance of anabolism. Other things equal, wasting diseases are accompanied by depression, unless the wasting is merely the removal of superfluous fat.

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In this hypothesis one may find an explanation of a curious occurrence that I have noticed in many cases of morbid depression, and that is quite frequent in the normal depression of misfortune and disaster. Whether the depression is normal or morbid, when the sufferer wakes in the morning he is, in many cases, for a few instants completely free from his depression. He is happy and cheerful for a moment or two, and then the black cloud rolls over him, and he is plunged in misery which endures the day through. The explanation of this curious occurrence seems to me to be as follows: By the quiescence and ablation of function that occur in sleep, those highest regions of the nervous system that are the substrata of consciousness are cut off from the influx of currents belonging to the cœnæsthesis. Between the substrata of consciousness and the tissues of the body at large there is interposed a stratum of inert tissue, through which the currents from the one to the other cannot penetrate. The substrata of consciousness receive no intelligence of the processes of metabolism, and preserve in consequence a neutral tone that is reflected in a complacency of mental affection. Upon waking, these dormant areas regain their functions, and regain them in their order from above downwards. Consciousness returns first, and with the spread of efficiency, the convolutions that are the substrata of consciousness are placed once more *en rapport* with the body at large. The moment this takes place, the depression is re-established; but the spread of wakefulness from the highest region to that just below takes time. The resumption of function is not instantaneous, but occupies a small but appreciable time, and hence it is that, until the resumption of function is complete, there is no depression; but as soon as the influx from the body at large takes place, the depression is re-established.

I have long held, and extension of experience induces me to hold more and more strongly, that the metabolism of the body is regulated in the last resort by those very convolutions that are the substrata of consciousness. In many cases of vicious metabolism I believe the original fault is in the convolutions, not in the tissues; and in cases of depression it seems to me a vicious circle is established. Trophic influence from above disorders metabolism; return currents, from the tissue whose metabolism is disordered, maintain and increase the disorder

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of the central nerve regions from which the trophic influence issues. The difficulty of breaking into such a vicious circle is extreme, and hence the intractability of so many cases of pathological despondency.

Some members of this Association I fear there are who scout these abstract and recondite speculations as useless, and as savouring of the futility of the speculations of the Schoolmen. Such members I would remind of the undergraduate who refused to have anything to do with the square root of minus one, on the ground that it was not only futile, but immoral.

But the square root of minus one has proved a very magician's wand in revealing the secrets of Nature. It is used in calculating the capacity of condensers; in plotting stream lines of fluid in motion; it is indispensable in calculating the transmission and utilisation of electric power; and it is not too much to say that is has rendered wireless telegraphy possible. Those who work on lines of research that yield results of immediate practical value need no encouragement. Their reward is speedy and is sure. But I submit that no results of permanent value have ever yet been reached except upon foundations laid by far-reaching speculations into the nature of things—speculations that at the time they were made seemed to be but the dreams of an enthusiast, and to have no practical bearing on the affairs of men.

Some Further Observations Bearing on the Supposed Thrombotic Origin of Epileptic Fits (1). By JOHN TURNER, M.B., Senior Assistant Medical Officer, Essex County Asylum.

I HAVE again ventured to trespass on your time and attention with some remarks on the pathology of epilepsy, partly in order to refer to some criticisms on my views and partly to amend them, because my most recent observations on the coagulation-rate of the blood in this disease seem to indicate that they require some modification.

My contention has been that epilepsy is a disease occurring

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in persons with defective structure of the nervous system, either congenital or involutional, in whom there is an abnormal state of the blood, characterised by a special tendency to clot, and that the exciting cause of the fits is sudden stasis of the cortical blood-stream, the result of a blocking of cortical vessels by intra-vascular clots.

Now the point which from the further results of my examination into the coagulation-rate of the blood in epileptics, I think, requires modifying, is that postulating a special tendency to clotting in epileptics' blood, apart from those periods when they are under the influence of fits. The evidence now shows that in certain cases, chiefly among those who have infrequent fits, the coagulation-rate is only quickened during the time that they are about to have fits. The rest of my contention, I believe, still holds good.

(A) As regards the structural defect of the nervous system: The evidence, both clinical and pathological, that epilepsy is associated with structural defect of the nervous system amounts in my opinion almost to demonstration. It is associated in a very large number of cases with actual imbecility or idiocy, and in perhaps a still larger number with various grades of weak mind not amounting to actual imbecility. But I do not wish to infer that the structural defect of the nervous system is necessarily one that shows itself by intellectual shortcomings. Some of my cases were certainly up to the average standard of intelligence for people of their class, some above, and yet in such of them as have come to autopsy I have seldom failed to find evidence of immature or defective cerebral structure.

I believe that one of the most striking forms of defective structure, and one which admirably lends itself to demonstration, is met with in the character of the Betz cells.

In from 65 to 70 *per cent.* of all epileptics there is present a form of cell which there are very strong reasons for regarding as an immature form, and which is very similar to an early stage of reaction *à distance.*

There has been a large amount of literature concerning the supposed relation between this form of cell and certain forms of insanity.

Briefly put, my reasons for regarding it in epileptics as an immature form, and not due to active interference with the axon (as by injury or disease) are as follows:

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(1) When the axons have been interfered with in the way of severance, as by a hæmorrhage, the passage through the various grades of change up to almost complete disappearance is rapid, occupying only about ten to fifteen days; so that if in epileptics it was an active form of cell change due to this cause, it is highly improbable that we should meet with such a large proportion of cases, even in very advanced epilepsy, showing such a very early stage.

(2) We have comparatively rarely any evidence of lesions of the particular axons in question of a nature which would suffice for the change.

(3) It occurs in nearly 40 *per cent.* of all the cases dying insane, being least common in general paralytics, and in nearly 60 *per cent.* of all imbeciles, whether epileptic or not.

(4) It is found normally in some of the very large ganglion cells of the forehorn in the lower animals (full-grown pigs, cows, etc.).

(B) As regards the immediate or exciting cause of the fits (of all kinds), I am still of opinion that they are due to sudden stasis of the blood-stream in the cortex caused by the impaction of thrombi in the smaller vessels. I hold that this contention is supported by (1) experimental evidence, (2) by histo-pathological evidence, and (3) by clinico-pathological evidence.

(1) As I have already more than once stated the experimental facts which show that sudden stasis of the blood-stream is capable of causing convulsions, I shall not enter into these particulars again.

(2) And concerning the histo-pathological evidence, I will merely mention that I have found intra-vascular clot, especially in the form of small spherical bodies, in over 80 *per cent.* of the brains of epileptics examined (now some fifty cases), a percentage which is much higher than in any other class of cases similarly searched.

There is one point I ought to mention in reference to the nature of this clot. With the view of ascertaining whether it was a nucleo-protein material, because if so this would support the idea that it was a vital phenomenon, I tested it for phosphorus according to Macallum's method. In the first two or three cases I closely adhered to his instructions, dehydrating the tissue in hot alcohol by means of a Soxhlet apparatus, etc., and found that the clot in question took a bright green colour,

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indicating phosphorus, but as I got a quite similar reaction in pieces of the same tissue merely dehydrated in cold alcohol, I did not repeat the dehydrating in the Soxhlet apparatus for the further very numerous cases tested, a procedure which would have added very considerably to the labour of the investigation. But whether I was justified or not in this proceeding does not apparently now matter, for two independent workers, Bensley (*Biol. Bulletin*, 1906) and Scott (*British Medical Journal*, December 22nd, 1906), have thrown strong doubt on the reliability of the test, and both have arrived at the conclusion that the deductions drawn from its use, in so far as they relate to nucleic acid, are worthless, so that if this be true the result of my investigation into the chemical nature of the clot to collect proof of its vital character must be looked upon as of very doubtful value.

There are, however, features in the form and in the class of cases in which the clot is deposited which afford some evidence of its vital nature, and which help to show that it is not due, as has been suggested (Ascherson in Mott's *Archives*), to agonal appearances or the result of prolonged status epilepticus.

(i) It is commonly met with in cases which have not died in status epilepticus, and although acute inflammatory conditions undoubtedly favour its depositions, yet, so far as my experience goes, this greater liability is especially associated with inflammatory conditions occurring in epileptics. I have examined several cases (not epileptics) dying from acute inflammatory disorders without finding any evidence of intra-vascular clotting; two of these I have referred to in my article in the January number of the *Journal of Mental Science*. Two others I may now add:

(*a*) A woman, æt. 38, at whose autopsy there was found thrombosis of cerebral meningeal veins with purulent meningitis, with general septic infection (liver and kidney). Sections from both ascending frontals and the left temporal lobe showed no cortical thrombi.

(*b*) A woman, æt. 40, dying from typhoid with fatty degeneration of the liver and cloudy swelling of the kidney. (Temperature reached 104° F.) Sections of both ascending frontals, medulla oblongata, spinal cord, and spinal ganglia were examined, but showed no traces of intra-vascular thrombi.

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(ii) Appearances indicating that the clot has produced a bulging out of the capillaries in which it is deposited, and which I take to be the result of the arterial pressure on the blood-stream during the process of coagulation.

(iii) Actual rupture as the result of impaction.

(iv) The existence of clotted masses, half within and half without the capillary vessels, which I take to be evidence of vital transudation of fluid plasma which has undergone coagulation during the process of transudation.

(v) It also appears to me that the correlation of intravascular clotting in such a very large proportion of epileptics' brains, with the fact that in these subjects there is, during and before fits, a marked tendency of the blood to coagulate quickly, are further strong points in favour of the idea that the clotting is a vital phenomenon.

I should like here, also, to briefly point out my position with reference to Herpin's law which seeks to formulate the identity of the incomplete and initial symptoms of the complete attack, and the identity of type of the fits in a given case.

In the *British Medical Journal* (March 3rd, 1906), I endeavoured to show that the identity of the symptoms of the fits in a given case is not incompatible with the thrombotic theory. The type of fit, and the pattern, so to speak, of the symptoms, sensory and motor in each case, is, in my opinion, pre-determined by the site and extent of the cortical defect—this is a congenital affair. It would be, of course, absurd to suppose that the block, which I hold excites the fit, would always occur in a vessel in exactly the same region, but I imagine that the lodgment of a thrombus in any area of the cortex, which is linked to the defective area by open nerve paths, will be sufficient to overturn the unstable equilibrium of the cells of these defective areas, and issue in an epileptic attack of an uniform character. And similarly I would suggest that in those cases where the fits are ushered in by an aura, the defect of cortical structure is not limited to motor areas, but implicates also sensory areas, so that in proportion to the suddenness and severity of the stimulus and the degree of cerebral defect in sensory and motor regions, one or both, there may be produced either a sensory phenomenon alone (aura) or an incomplete or complete minor or major attack.

Loss of consciousness and not convulsions is by most

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authorities stated to be the cardinal feature in epileptic attacks, and Dr. A. E. Russell, in a paper on "The Pathology of Epilepsy," read in the Medical Section of the Royal Society of Medicine on November 26th, 1907, suggests that the unconsciousness and convulsive seizures of the epileptic attacks are due to sudden failure of the entire cerebral circulation. In his criticism on my views he objects that if the clotting is very localised, it is difficult to conceive how it would bring about the phenomenon of a fit, and that if it were extremely widespread, the subsequent destruction of brain-tissue would be so great as to be incompatible with the fact that after a fit the epileptic shows so little material change, mental or physical, and he questions whether the blocking of a few small capillaries would result in sudden unconsciousness.

Dr. Russell, however, does not take into account a factor which I consider to be essential in the production of seizures in idiopathic epilepsy, *viz.*, defective cerebral structure.

Facts are, I am afraid, lacking which would warrant one in decisively stating whether consciousness may or may not be abolished by the sudden cutting off of the blood-stream from small cortical areas. What evidence we have (in the experiments by intra-venous injection of oily substances) in my opinion is in favour of the view, that consciousness may be abolished by very localised agencies in the cortical areas, and more especially if the cells of the affected areas are in a condition of unstable equilibrium, from innate defect of structure.

As bearing on the question whether consciousness may be abolished by minute cortical lesions I will quote a case of senile epilepsy, where, at the autopsy, were found hundreds of tiny cortical hæmorrhages, from a pin's head to a pin's point in size. These lesions were due to obstructive endarteritis of small cortical arterioles. It seems justifiable to associate the epileptic attacks (with loss of consciousness) with these hæmorrhages, as effect and cause, and if so then we must admit that an extremely minute lesion is capable of causing loss of consciousness.

The stasis does not lead to atrophy of the brain substance except occasionally where the block is permanent and lodged in a comparatively large vessel; because although probably the fine cortical arterioles are terminal, I believe that it is possible for the cells of the affected area to obtain sufficient nourishment

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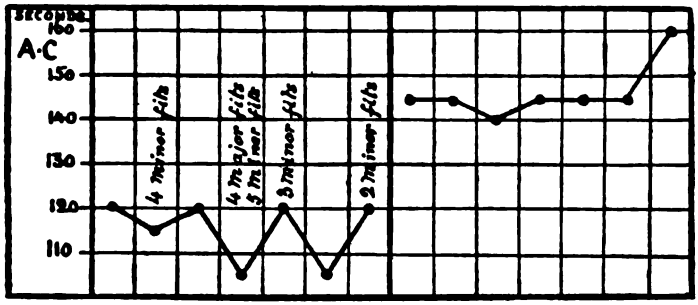
from the lymph which everywhere surrounds and bathes them, at any rate that by this means they can ward off necrosis until the circulation of their nutrient vessels is restored by the dislodgement or absorption of the impacted thrombus.

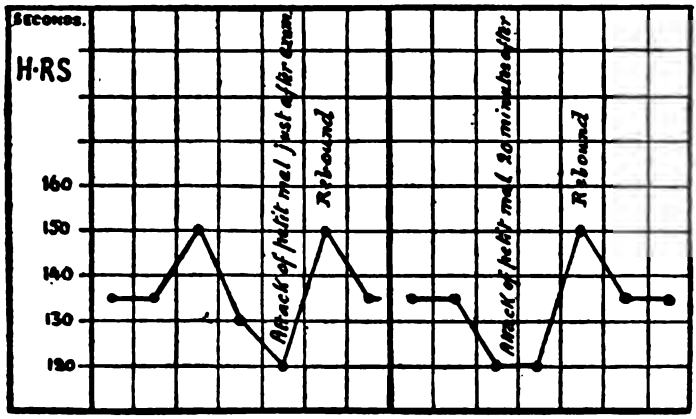
(3) *Clinico-pathological evidence.*—I am dwelling more on

FIG. 1.



this aspect of the question to-day, because it is that to which my attention has been chiefly turned of late, and because it is my further experience of the coagulation-rate of the blood that leads me to consider that a modification of my original view is necessary.

FIG. 2.



My observations on the coagulation-rate of the blood now number many thousands, and include, besides healthy women and epileptics, those suffering from the katatonic form of dementia præcox, from acute mania, and from imbecility (high and medium grade) without epilepsy. My colleague, Dr. de

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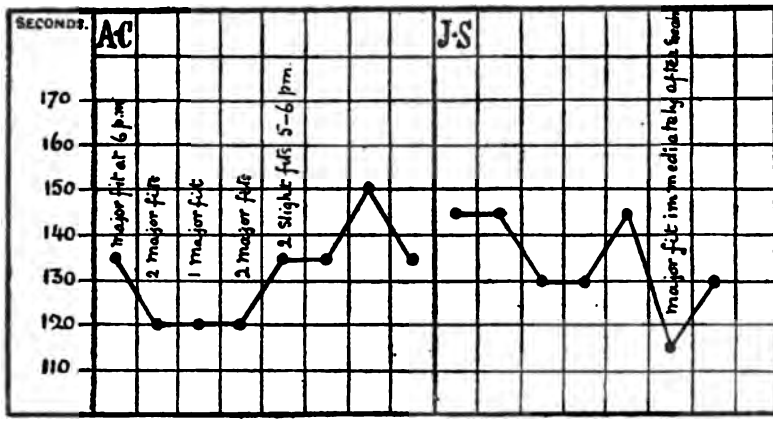
Steiger, and myself are still working in this direction, but even at the present time the observations are believed to be sufficiently numerous to warrant our drawing certain conclusions.

Before referring, however, to these I will briefly recapitulate

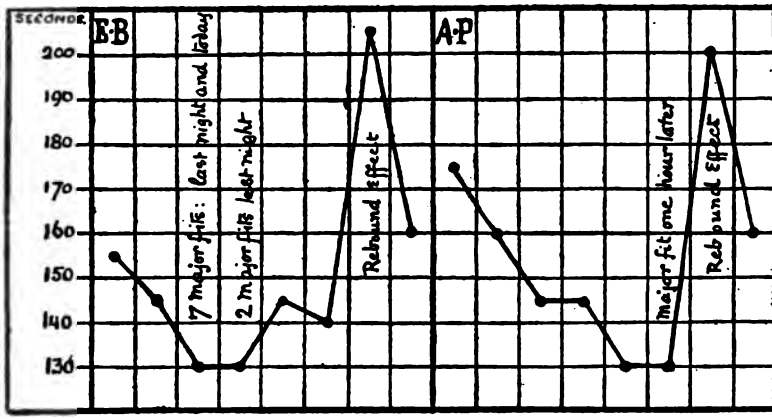
FIG. 3.



the chief points which our observations in epileptic cases seem to warrant us in drawing:

(1) That the average rate of coagulation in the severe

FIG. 4.



epileptics is quicker than in any other class of cases so far examined.

(2) That in epileptics (and it must be borne in mind that I am referring, with a very few exceptions, to those of average or

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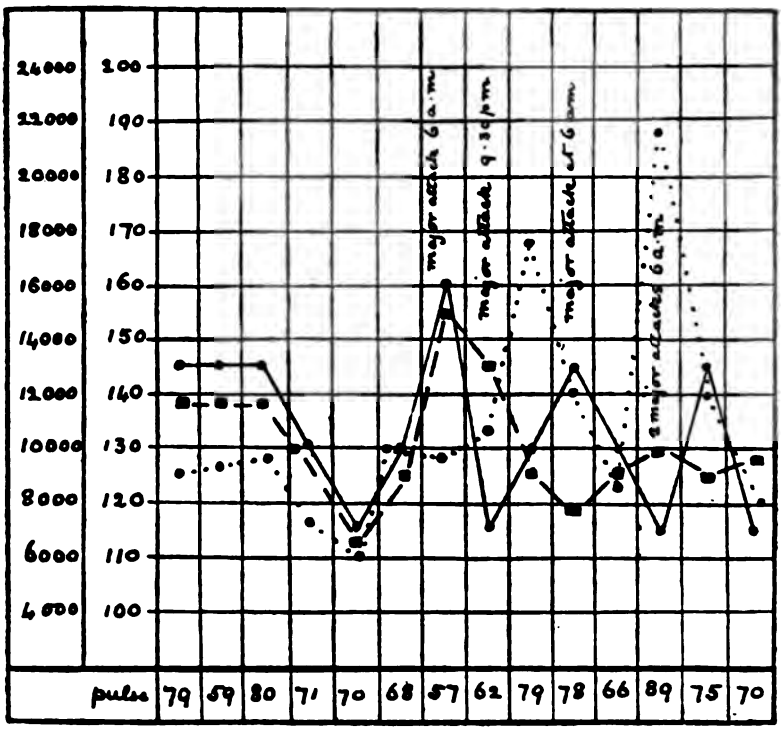
above the average intelligence) who are subject to frequently recurring fits, the average rate of coagulation during the time that they are having fits is quickened (see Figs. 1–3).

(3) That before (up to twenty-four hours) and during fits there is a further quickening.

(4) Occasionally, from twenty-four to forty-eight hours after a fit, there is, as it were, a rebound effect and coagulation is retarded (Figs. 2–4).

FIG. 5.



The accompanying chart (Fig. 5) shows the coagulation-rate (continuous line), blood-pressure (broken line), and the number of leucocytes per c.cm. (dotted line) for fourteen consecutive days between the hours of 11 and noon in a female epileptic of average intelligence. It shows the tendency for the coagulation-rate to be quickened just *before* attacks, and to rise afterwards.

On two occasions there was a marked but temporary leucocytosis after *attacks*. In my experience this is the most usual

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alteration found in regard to the blood count, but sometimes the leucocytosis occurs before and sometimes not at all.

Notice that for the first seven days the blood-pressure curve closely follows the coagulation-rate curve, but afterwards, *i.e.* during the period of fits, this relationship is no longer to be seen. This woman was taking 10 gr. doses of potassium bromide at bed-time.

(5) That in certain epileptics, especially those who have single fits at long intervals, the average rate of coagulation is not quickened; it may, indeed, be retarded; but still, in these cases there is before and during fits a relative quickening. Also cases who have a number of fits, and then go some weeks or months without any, during the period that they are free from fits do not very often show quickened coagulation.

This last conclusion appears to show that the special tendency to clotting is limited to periods of fits, and the question arises: To what is this temporary quickening due?

There is a large amount of evidence accumulating, the tendency of which is to indicate that epilepsy is a toxic disease. It is not my intention to give an account of the work of Krainsky, Ceni, Fere, etc., in this direction, but as bearing on the question under consideration I would mention that, as Dr. Aldren Turner points out to me, (1) quickened coagulation, (2) excess of nucleo-protein in the blood, (3) elevation of temperature in continuous fits, and (4) leucocytosis, two of which are certainly, and all of which are probably factors in many cases of epilepsy, are also factors which, apart from direct experimental evidence, support the idea that there is a toxin in the blood in epilepsy.

On these grounds I am inclined to regard the quickening of coagulation found at certain periods in the blood of epileptics as due to a toxin or toxins, which, by accumulation or otherwise, at certain times lead to thrombosis which may, under favourable circumstances, precipitate a fit or fits. The toxin, from this point of view, is not the immediate cause of the fits. The immediate cause is local stasis of cortical areas.

By this supposition many difficulties in the way of accepting the usual toxic theory of epilepsy are removed; and it has also the advantage of bringing into harmony results obtained by different observers working at the problem from very different positions.

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Minute thrombi, formed locally in the general blood-stream, may not be able to reach the sites where they become efficient excitors of convulsions, but the very small calibre of the cortical capillaries, in comparison with the capillaries of the body generally, immensely favour the impaction of small thrombi in the former rather than in the latter.

Sir James Barr states (*British Medical Journal*, August 31st, 1906) that the diameter of the body capillaries varies between 7 and 13 μ. Now in the cortex they are met with no larger than 1 to 2 μ, so that small thrombi able to pass easily through the general capillary circulation would be arrested in the cerebral cortex. Dr. Ford Robertson, I know, has denied that cortical capillaries are ever so minute as the figures I have given, and he gives 4 μ as the limit of fineness, but this is an obvious error, as anyone may satisfy himself by examining films of cortical matter. I have examined many hundreds of such made by the method I described in the *Journal of Mental Science* some years ago, and probably in all, certainly in the great majority, capillaries of 1 to 2 μ were distinctly visible. These figures are smaller than the diameter of an erythrocyte, but the elastic nature of these bodies allows them, by lengthening themselves, to pass along tubes of such fine calibre. I will show you on the screen photographs of capillaries of 1 to 1·5 μ in diameter, and also elongated erythrocytes in the act of passing along a tube not more than 2 μ in diameter.

Concerning the coagulation-rate of the blood in insane cases other than epileptics having frequent fits, we found that there was a tendeney for the daily average of all the different classes (*i.e.*, the maniacal, the precocious dements, the epileptics with infrequent fits, and the imbeciles not suffering from epilepsy), to group themselves around the daily average of the normals, but that the averages of the maniacal and epileptics with infrequent fits tended to rule the highest, and those of the precocious dements and imbeciles (especially the latter), tended to rule the lowest. Beneath all these (with three exceptions), came the daily average for the severe epileptics.

The position of the imbeciles' curve is lower than any group except the severe epileptics, and hence approximates most nearly to the curve of these latter.

Remember that these curves represent averages of from

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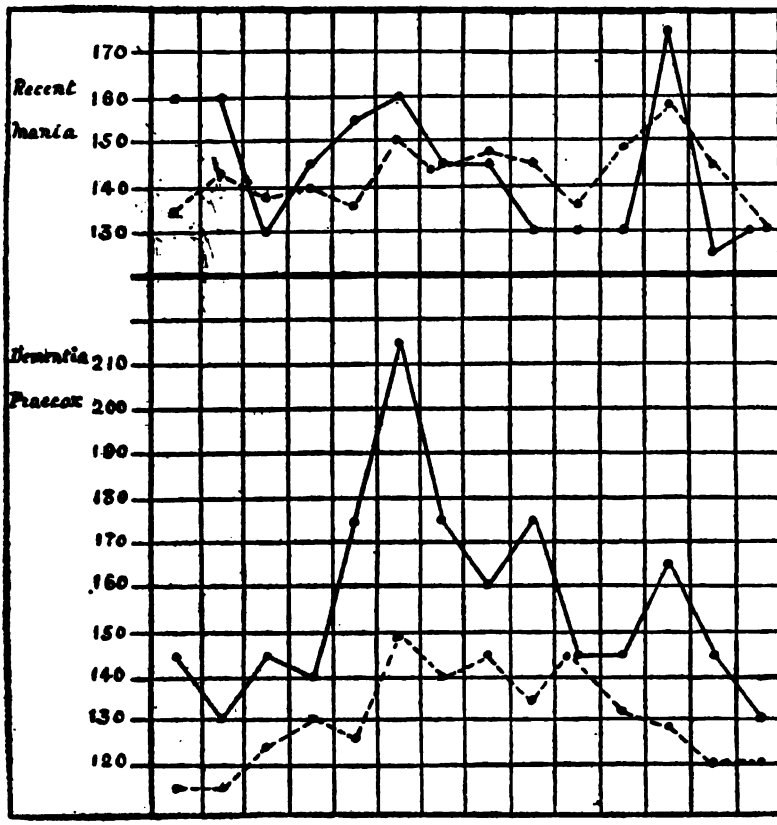
three to eight individuals. Amongst precocious dements and imbeciles some cases show an average no higher than some of the severe epileptics; this seems to be especially so in advanced cases of dementia præcox and in certain imbeciles of low grades.

A very striking method of showing the increased tendency

FIG. 6.



Continuous line = coagulation rate in seconds.
Dotted line = blood-pressure in mm. of Hg.

to coagulate in severe epileptics is to contrast the number of instances where the blood coagulated at two minutes or less (rapid rate) in them, with the number of instances in the other classes. This was as follows:

In epileptics having frequent fits, 28 out of 83 observations, that is, 33·7 *per cent.*

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In epileptics having few fits, 4 out of 56 observations, that is, 7·1 *per cent.*

In precocious dements, 8 out of 112 observations, that is, 7·1 *per cent.*

In imbeciles, 15 out of 84 observations, that is, 17·8 *per cent.*

In maniacal cases, 2 out of 42 observations, that is, 4·7 *per cent.*

In normal cases, 3 out of 98 observations, that is, 3·0 *per cent.*

It has been shown by independent workers, (Bürker, Buckmeister, McGowan,) that the coagulation-rate is much slower in the morning than in the evening and this may perhaps help to account for the tendency in many epileptics to have their fits chiefly during the night.

There is one point which these further observations bring out in a very striking manner, and that is the relationship between slowness in coagulation and height of blood-pressure. I will show you charts which illustrate this, where the daily fluctuation in coagulation-rate is followed by corresponding fluctuation in pressure (Fig. 6). At times disturbing factors may mask or obliterate this relationship, but as a general rule we may state that a high systolic blood-pressure accompanies a slow rate of coagulation.

From my point of view this relationship may be of service in indicating lines of treatment. We know that the secretions from certain glands possess the property of raising the pressure; if this property is associated also with one which causes a retardation of coagulation—an assumption which the results of our observations render probable—we may have in the administration of extracts from certain glands a means whereby we could permanently retard coagulation, and so be in a position to test whether this did or did not affect the epileptic attacks.

(1) Read at the Quarterly Meeting of the Medico-Psychological Association, held at Warwick Asylum, February 20th, 1908.

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The Question of Dementia Præcox. By ROBERT JONES, M.D.Lond., F.R.C.P.Lond.

IN any province of experience the systematic arrangement of the facts pertaining to it is regarded as one of the most useful instruments in its comprehension and understanding, and for this reason a systematic classification of the various forms of insanity has long been accepted as one of the best signs of psychiatric progress.

The saving of repetition, the avoidance of endless and useless enumeration of single cases, the time saved by their arrangement into kinds or groups, and the assistance to diagnosis, prognosis and treatment, have always justified attempts at a classification of the insanities. So unsatisfactory has every scheme hitherto presented proved itself to be, that it was no new thing to hear murmurs of disapproval with the Table presented by a special Statistical Committee of this Association at the annual meeting two years ago. Yet so necessary and helpful is a proper scheme that it at once strikes the merest tyro, and we know that the first self-imposed duty which a fresh medical officer in an asylum performs—and this with the gratification and the excitement of a new discovery—is to invent and evolve a classification of his own, dividing the various forms into groups or kinds into which, in his opinion, any case can with ease find a ready place and label.

It was upon a motion proposed by our President, Dr. Mercier, in 1905, that a committee was appointed to draw up a "Table of Disease" and to report thereon to the Association. In their final summary presented by Dr. Percy Smith are these words: "In the existing Table 'Stupor and States of Confusion' and 'Primary Dementia' are found, and the committee consider that they are of sufficient clinical importance to justify separate headings, as is recommended. The question of 'Dementia Præcox' was, of course, carefully considered, and the Committee did not desire to re-insert this term." The latter statement has undoubtedly been a disappointment to some who appreciate and follow the teachings of Kraepelin, and this special title has certainly received the adherence of many of the younger authors and writers, more particularly in America and in Germany.

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It is no easy matter to divide pathological mental states into groups characterised by the possession of such common characters and marks, that upon a survey any occurring case of insanity can with confidence be therein included. The conjunction of characters that agree and the separation of those which differ do not enable us to classify with facility and confidence diseased forms of every mental constituent, and much care requires to be exercised to use terms exactly and definitely. There is no unanimity even in regard to the classification of the normal mind, for Sir William Hamilton taught that mind could be analysed into three main fundamental constituents, and he considered cognition or thought, feeling, and will or conation to be elemental faculties of the mind, and in Bucknill and Tuke's *Insanity*, p. 41, edition 1874, a classification of the insanities appears based upon this analysis. It would be correct to state that since the time of Aristotle, who recognised only two main divisions of mind, *viz.*, intellection and conation, until to-day, when there is again a tendency to revert to almost the same dual division, ultimate mental constituents remain a matter of speculation and discussion, and it is not surprising therefore that a classification of morbid mental features as observed in insanity should meet with a similar fate.

It is not my object to-day to review the whole systematic arrangement presented in a classification of the insanities, but to deal with one division only, and I would point out that although Esquirol described the so-called dementia præcox under the term "acquired imbecility," it was not until twenty years or so ago that an attempt was made to group together several more or less allied forms of insanity in the adolescent under the same heading, but under a new name.

I doubt if a more expressive term could be found for this group than was used by Esquirol under "acquired imbecility." It singles out what appears to satisfy the needs of a perfect definition and supplies the whole connotation of the term. Morel, in France, and Christian also, in his description of "juvenile dementia" anticipated this grouping, which has been further dealt with by Sérieux, but to Kraepelin belongs the distinction of inventing dementia præcox, not as the discovery of a new disease, as some of his disciples urge, but as the grouping together of symptoms which are characterised in the

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main by progressive deterioration. Whether this grouping is a justifiable one it is the object of this discussion to elicit. It may be observed that the term "dementia præcox" receives no mention in Tuke's *Dictionary of Psychological Medicine*, and neither Dr. Clouston nor Dr. Savage mention it in their earlier works; moreover it does not appear in the index to Dr. Bevan Lewis's text-book, yet no one who has read these manuals will deny that all the symptoms descriptive of this condition were not fully realised, accepted, and described.

Let us consider for a moment the meaning attributed to the word "dementia," and so far as I understand the term, it connotes, in the first place, an un-emotional state, for there is neither excitement nor depression, only pronounced inactivity, it is characterised by a negative manifestation of brain action as contrasted with any positive symptoms of excitement. In the second place the term pre-supposes a full development of the mental powers. It is contrasted with amentia, which implies a congenital state, and it is accepted as describing a form of mental disorder characterised by acquired, as compared with congenital enfeeblement of the mental powers. It is not easy to fix any particular degree of mental impairment or inactivity as definitely fixing or constituting dementia, but use and custom associate the degree of loss with a depth from which there is usually no recovery, and if there be any one symptom which with confidence can be taken and relied upon as characteristic of dementia, it is loss of memory.

The qualifying "præcox" merely signifies ripe, untimely, before its time; but it has in this particular, as will be seen later, a somewhat extensive application.

In the short printed abstract of what I had intended to say I made, somewhat didactically but "with malice aforethought," the statement that stupor was the most prominent symptom, and also that there was a feeling tone of depression in these cases, a condition which was accepted under the very apt definition of *melancholia cum stupore.*

The presence of *stupor* is in agreement with the principle laid down by Kraepelin when he added katatonia to the group of general insanities in young people first described by Hecker under the title of hebephrenia, an insanity which he described as beginning at the age of puberty, but which has of late received further extension of time from puberty through adoles-

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cence and into maturity, and ending in general intellectual enfeeblement. Kraepelin further added a variety of mental aberration characterised by unsystematised and varying delusions described as paranoid insanity. To this class or group the term "dementia præcox" was applied. Kraepelin did no more than group together these three varieties, but many of his pupils allege that he created a new entity, and has thus described what some believe to be a new disease.

It may be well to consider more fully the varieties included under this heading, and firstly hebephrenia, which Kraepelin describes as commencing with hallucinations and delusions, but these tend to disappear; there is jerky mannerism and eccentricity, there is loss of voluntary attention and activity, loss of interest, and apathy, ending, it may be, in speechlessness or "mutism." The cases in this category include those with maniacal excitement followed by depression and ending in permanent mental enfeeblement, although it is stated that about 8 *per cent.* of dementia præcox of this variety recover.

Katatonia (κατα τέινω—to stretch or strain oneself) is applied to a form of insanity characterised by hallucinations as well as by apathy, loss of interest and of attention, merging into a state of stupor with muscular tension. There is also what is described as "negativism"—refusing to speak, or "mutism," being the best example of this; and here I would venture to ask for a definition of this term. Does "negativism" describe the patient's state to the examiner, or does the term apply to the patient's own mental state and imply loss of consciousness? If the latter, then, I would prefer to describe the patient's mental condition as "positivism" rather than "negativism." Cases of this kind are often most resistive and refuse to do anything requested of them. In addition there is a state of increased susceptibility to suggestion, and such opposite conditions as "negativism" and "suggestibility" pass from one into the other directly, or after impulsive excitement, and thus is seen what is termed "stereotypy," or "stereotyped movements," which are actions repeated purposelessly and senselessly. Although 13 *per cent.* of these cases recover, yet there are no means to judge which cases will recover, or which may lead to different degrees of deterioration.

The third variety, paranoid forms (παρα νόος—distraught, frenzied) are described as resembling those of chronic delusional

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insanity, only that the delusions develop more rapidly and they are less systematised. Hallucinations and delusions of either or both persecution and grandeur occur, and these are believed to be more persistent than in the hebephrenic and katatonic varieties, but they also tend—though less—to pass off as mental deterioration progresses. There may be in this variety some katatonic stupor, the paranoid patient being also subject to apathy, loss of interest and activity, and the same "mannerisms" of katatonic patients and the same "stereotypy" are also observed.

It must be acknowledged that there is no hard and fast line to indicate any one of the above groups; the symptoms overlap, and they are interchangeable—for the symptoms of the one are not infrequently observed in the other; indeed, it may be stated that many of the symptoms are common to all three forms.

Such a classification, with the symptoms of each variety overlapping, fails in one of the fundamental necessities of a logical division, for the varieties are not mutually exclusive. Such an absurd classification would resemble a division of the army into infantry and commissioned officers rather than into cavalry, infantry, and artillery.

Can anyone, with experience of the above, and who has a knowledge of practical insanity, for one moment consider these closely-allied varieties to be different kinds or forms of insanity or that they are limited to adolescence? If this be the case then it is impossible to include any one class of dementia præcox as "a form of insanity at any one time," such as at the time of observation or of noting, although there are some who propose to diagnose these varieties by so simple an action as a "shake of the hands." If the above classification be a typical one, then I can only say that in the Claybury Asylum, with nearly 2,500 patients, there are not more than 5 per thousand cases of dementia præcox among the total population; whereas Kraepelin, I believe, considers that the vast majority of the residents in institutions for the insane are cases of this form.

It is not surprising that there is a difficulty in fixing definite types of insanity during the period of youth, for it is one of extreme complexity and variety. The gradual unfolding of the sexual function is accompanied *pari passu* with an expansion of the emotional life, and during the special epoch of life the

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mind becomes charged with latent changes, which on the emotional side may well be described as dreamy longings and per-fervid passions.

During this period, as Dr. Clouston says, intelligence is nascent, ideas are inchoate, and the whole mind is lacking in precision and conscious power. The period of puberty—from 12 or 13 to 15 or 16 years of age—has its special mental formula, and so has the period of adolescence. In both the mental states are different from that in maturity. There is a difference not only of degree, but also of kind between the several stages of youth and those of manhood, or womanhood, or maturity; and the same causes, or set back, or disturbances give rise, in precisely the same effects, to the same dementia. It is the same shedding of the last acquired and least organised attainment, and the injury to the mind is the same in youth as in subsequent periods of life, the only difference being in its manifestation. In the one period the delusion is tinted with the hopes, the ideals, or the tender sentiments of youth, whereas in adult life it is the result of mature experience.

Pulmonary tuberculosis in the adult lunatic is precisely the same disease as in the stuporose adolescent, although there has been no cough and no expectoration in the latter. Dementia is the same injury in both, only with different manifestations, depending upon the period of life which has its special mental state. Acute rheumatism in adults affects particularly the joints, but in youth the endocardium and the blood-vessels, yet no one considers these to be different diseases requiring a special nomenclature. Osteo-arthritis in adults affects the joints generally, yet when it occurs in the young one joint alone is seen to be affected, still it is precisely the same disease. In just the same way dementia is the same whether affecting young or old, and it needs no special nomenclature.

The grandeur, the false ambition, the mannerisms, and the neologisms of the adolescent lunatic have their roots in the romance, the poetry, and possibly the artistic sensibility of normal adolescence; whilst the ambitions of the adult monomaniac are the result of his maturity, his past experience and the effects of his competition for a place in the struggle for existence. The delusions reflect the environment as well as the personality of the individual, and he is persecuted, jeered at, or admired as external or internal associations predominate.

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The delusions of the hebephrenic or of the paranoid are exactly of the same mechanism as occur in adult life, and Dr. J. S. Bolton has aptly illustrated this by his theory of the inherent neuronic durability, which admits the same injury at varying periods and depending upon the special neuronic resistance. Kraepelin himself accepts this to some degree when he extends the period of this dementia to middle age.

The fact that in adolescence there is great fluctuation of feelings and sentiments accounts for the fantastic delusions on one hand and the languor or stuporose depression on the other. Even in health periods of enthusiastic energy give place to dissatisfaction and introspection; in youth this is especially characteristic. But is there a real difference between the apathy and stupor of katatonia and that observed after any great mental disturbance, such as that seen in the adult after acute attacks of mania, melancholia, *folie circulaire*, epilepsy, or even general paralysis and other forms of dementia? Indeed, the tendency to-day is to regard all suspension of psychical operations and all stupors in which the mental processes are more or less in abeyance as coming under the term "katatonia" and being closely allied. I believe that the varieties of what are described as dementia præcox are closely allied, if not identical with what occurs in *primary dementia* at any period of life, the only difference being due to the different stage of evolution at which the dementia occurs, and at the onset I venture to deny the very existence of such a special form of mental disorder as "dementia præcox."

"There is no new thing under the sun" was observed by Solomon in *Ecclesiastes*, but he was probably not so well versed in insanity as his father David, and if his wisdom were appealed to to-day it would draw attention to the neologisms of the modern alienist.

Take, for example, hebephrenia! I wish to know what is the relationship between Hebe, the daughter of Juno and the wife of Hercules, with insanity? Why should this goddess be associated with mental deterioration and decay? Again, in my dictionary "stereotypy" is stated to be the art of casting by means of a mould, and in another place the art of making stereotype plates!

The term "negativism" does not exist either, but "negativeness" does appear, and is the quality of being negative, a

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negative being further described as a "picture on glass in which the light parts of the original are opaque and the dark semi-transparent!"

There is no connection suggested between these terms and insanity, although they appear to be the stock-in-trade of the alienist of to-day, and I cannot but deplore the coinage of new terms when our own language is so rich in descriptive application.

It would appear from this account of dementia præcox with its teeming multitude of new names—echopraxia, intrapsychic ataxia, echolalia, psycho-anæsthesia, heboid insanity—that such a group of mental disorders never existed before; but what about the condition described by Esquirol as "acute dementia," by Hayes Newington as "anergic stupor," and by another as "apathetic stupor," in cases where the patient is deprived of all manifestations of mental as well as of motor energy? The older classification of "mental stupor" gave the hope of recovery which does and did occur, but the term "dementia" conveys the idea of mental degeneration and irrecovery, yet, as stated, recovery not infrequently occurs. Regarding this point Dr. Clouston states: "Kraepelin has taken the term 'dementia præcox' and applied it to practically the whole group of my adolescent cases as described by me in 1873, making it cover the curable and incurable; I object strenuously to the word 'dementia' as applied to any recent and curable varieties of mental disease as being confusing and unscientific."

I confess that many cases of mental stupor demonstrate upon careful examination the existence of delusions, and the term "dementia" is hardly applicable to them. I have such a case recently within my memory (photographs exhibited). A man, æt. 25, was admitted under my care with marked stupor and rigidity. He had general anæsthesia, for even deep pin-pricks elicited no response, and yet he felt them but could not speak or flinch from them owing to the paralysing influence of a great dread. He was mute, cataleptic, and yet he retained full consciousness, for upon emerging from this state his mind was clear and he repeated every occurrence which he heard around him; conversation was repeated in minute detail, but he was so overpowered with imaginary dread and he was so apprehensive of harm that he could utter no sound at the time. I prefer to

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call such a case by the old descriptive term "melancholia with stupor" or "melancholia attonita." Another case of melancholia with stupor occurred in the case of a female, æt. 45, and it was typical of the cataleptic variety. I think in neither could the term "dementia præcox" be applied, for in the one there was no dementia, and in the other it was not precocious nor untimely. My personal feeling is that for cases up to forty-five or fifty this term is too wide in its range, and therefore it is improper to call such cases those of dementia præcox.

I cannot appreciate the term "para-noid"; why not manoid, melancholoid, paraloid, if the one coinage be justified? I have the same feeling in regard to pseudo-general paralysis. A thing is either what it is or it is not, and such a form of disease is either general paralysis or it is not. A mental state is either paranoia—and Dr. Percy Smith has settled this matter—or it is not.

Again, the characteristic feature of dementia is, as I have already said, loss of memory; the mental reflexes are blunted and inactive and all interest in former concerns are ended, yet the so-called cases of dementia præcox are most retentive in their memories. After years of asylum residence they can relate with wonderful accuracy what has taken place in their daily lives, and this although they appear to take no pleasure in the society of their kindred, the patient standing about in a state of passive indifference to all environment.

Although I animadvert upon Kraepelin's terminology I am not here to suggest a new scheme of classification, but to criticise the present and to elicit the opinion of others whose experience and observation of all forms of mental disorders exceed my own. Some who have written upon the subject are delighted that Kraepelin has invented dementia præcox, for they say he has thereby encouraged the alienist to make a diagnosis at once, and not "postpone prophecy until after the event," which nevertheless the use of this term demands.

A terminology which suggests the ultimate termination of a disorder is in my opinion somewhat premature and inapplicable at its inception, more especially if, as in these cases, there is occasional recovery.

In an interesting paper by Dr. Drapes (*Journal of Mental Science*, 1906) upon the unity of all insanity, there are very

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cogent reasons presented for the exclusion of dementia præcox and I believe the same view is entertained by Dr. Mercier in a paper printed in the *Journal of Mental Science*, January, 1905. A further paper by Dr. McConaghey (*Journal of Mental Science*, April, 1905), proposes the subdivision of adolescent insanity to represent the varieties covered by dementia præcox, a view which has long been adopted by Dr. Clouston, who gives valuable statistical experience upon the subject. In my experience for the last five years at Claybury, 2,879 young men and women between the ages of ten and twenty-five have been received, a slight majority of these being females, and recoveries occurred in 36 *per cent.* Clearly, therefore, the term "dementia" is out of place. I have included in this group all cases of mania and melancholia, for Kraepelin appears to embrace all forms of insanity of adolescence in his group, yet all know the grave prognosis there is in certain stuporose cases, which some of us still term "primary dementia," and which Dr. Savage has so very epigrammatically included in his maxim that it is often "better to be sixty than sixteen" in regard to the termination of such cases of insanity.

I have been frequently struck by the association and relationship existing between motor and psychic states, and I have witnessed a kind of mental chorea accompanying certain impulsive, motor states. It may not be unlikely that there exists a physiological relationship between mental stupor and certain forms of motor spasm or rigidity, just as there is an association between certain muscular paralysis and the mental symptoms of general paralysis, but hitherto it cannot be said that this form of mental enfeeblement in adolescence has been illuminated by any definite pathology, and up to the present the researches of Drs. F. W. Mott and J. S. Bolton have approached the subject with the most light.

I cannot conclude without expressing obligations to Dr. Johnstone, of Leeds, who by his excellent and clear translation has brought the valuable researches of Kraepelin within reach of the ordinary student.

Summarising my conclusions:

(1) There is no definite disease "dementia præcox"; the descriptions applied cover almost every possible variety of insanity.

(2) The term "dementia" is inapplicable, because it connotes permanent and irrecoverable loss of mental function.

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(3) The application of "dementia" is unsatisfactory to cases in which loss of memory is not a prominent early symptom.

(4) The term does not state whether it is the terminal stage or the stuporose condition which is of primary importance.

(5) The qualifying adjective "præcox" is equivocal, in so far as it leaves it doubtful whether the diseased condition evolves precociously, or whether it is stated to occur in early life or youth. It is therefore a vague and indefinite term, as these symptoms are also known at maturity and even at the menopause, and therefore they should find no place in a scientific or logical classification.

(6) A term which implies a definite entity, and which is with some becoming more accepted as such, should be distinguished by definite pathological findings, which is not the case.

(7) Finally, it is more in harmony with practice and of greater help to diagnosis and treatment to use in place of "dementia præcox" the term "adolescent insanity," suitably subdivided as at present.

Dementia Præcox. By A. R. URQUHART, M.D., F.R.C.P.E.

FRANCISQUE SARCEY says that originality consists, not in thinking new things, but in thinking for yourself things that thousands of generations have thought before you, and that your idea will appear new because you will strongly impress upon it the turn of your mind and tinge it with the colour of your imagination. Something of this kind has occurred in the presentation of dementia præcox. Kraepelin does not even claim the term as his own invention, but refers to it as the original proposal of Pick. We have duly recognised the distinguished position attained by them both, and appreciated Kraepelin's work, especially in investigation and teaching, and his achievements in elucidating morbid mental phenomena. If one is led to differ with him in the light of observations already made in this country and years of personal experience, that difference must be expressed in terms of esteem and respect.

Have we really advanced, in the matter of classification,

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at least, beyond the position attained by Griesinger in 1861? I think not. The main divisions of ordinary insanity are still representative of states of depression, states of excitement and states of weakness. Sankey's great generalisation has been revived and quickened, and rendered fruitful in a measure which is a gratifying tribute to his memory. Apart from distinctly pathological groups, these three phases may be successively recognisable in one insane person, while another may present but one or two. The progressive nature of mental disease is thus set forth. Much complicated writing becomes less difficult to understand. No doubt similar cases may be advantageously grouped under special designations as subsidiary to the main generalisation; but we have been, all along, too much occupied with protean, kaleidoscopic appearances, too much distracted by irrelevant or unimportant details, too much set upon the discrimination of variable and varying symptoms. Our hopes lie rather in the methods of physiology, a clinical procedure relevant to the underlying facts and a pathological knowledge which shall issue in a pathological classification. The toxic nature of insanity, even the toxic nature of fatigue, offers an explanation of morbid mental phenonena which Kraepelin has been quick to recognise, and on which we may more securely advance. Consequently, I have consistently advocated the simplest form of classification of symptoms in terms of time, except for those conditions, such as general paralysis, which are already known to be grossly pathological—although even that disease is conveniently regarded as melancholic, maniacal or demented in its various phases.

No doubt such a term as *melancholia* would be rejected to-day if it were proposed for the first time. *Black bile* is not a desirable designation, but it has been so long in use that the group of symptoms which characterise the condition is never, in practice, referred to the malevolent bilious secretion. It is a term consecrated by use. The difference is marked when a new name is offered for acceptance. Derivation and first-hand meaning are closely scanned, and it can only win its way into our nomenclature by express and undeniable suitability.

Dementia præcox has just been offered, and its passport, its letters of credit, are carefully scrutinised. Is it *dementia*? Is it *præcox*? Or is it something else disguised under a classical garb? *Adolescent insanity* has long been familiar to us as

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indicating a fairly constant group of cases. Is the Association to indicate a preference for the new importation? I hope not.

Let us see how dementia ends in my experience, which was certainly not recorded with such an investigation in view. I have considered all my cases diagnosed as demented during the last twenty-nine years. All have proved incurable with the exception of five. Those five are instructive; they were each and all deeply alcoholic. They recovered. To the alcoholic it would seem nothing is impossible—they conform to no rule. Three were men, of whom two continue sane and sober; two were women, of whom one continues sane and sober. The others have been lost sight of in the course of years. Therefore, dementia has been in my experience an incurable condition, invariably incurable but for those alcoholic exceptions.

No such results can be formulated in regard to dementia præcox. The condition is not thus hopelessly incurable. Kraepelin himself states that the disastrous ending of ordinary dementia is not by any means the rule in dementia præcox. The exceptions are too numerous to establish any such definite failure of medical skill. It follows that dementia præcox is not really dementia; and further, that there is a serious disadvantage in thus confusing the issues, an unnecessary and objectionable labelling of patients as hopeless and already doomed. I trust that I shall not be misunderstood. All insanity is mental weakness, more or less pronounced, but all insanity does not touch that lower level of mental degradation which is classed as dementia—that final wreckage of mind which, at least in my experience, permits no opportunity of salvage. I am free to confess that there was a time when I thought that Clouston painted with too big a brush, and that his sweeping assertion that dementia is altogether incurable might be modified on careful scrutiny. Now, I can only say that my experience corroborates his ultimate assertion, since my register of medical facts has been completed and examined with an open mind. In this register are recorded, *inter alia*, the ages on first attack, and those persons of less than twenty-five years of age, as adolescent. A brief examination of these records is of interest, and I make this *resumé* of them not as applicable to asylum life only, but as they are entered from the time of the first attack until the present, so far as I have gained that information. Inevitably a certain number have disappeared

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from our purview in the course of years, but these are comparatively few. I would note also that the figures represent all cases admitted down to the moment of writing.

It would clear the ground if completed histories in sufficient numbers were available for these inquiries, and the Association has been repeatedly urged to enter on collective investigations of the kind in order to establish statistics which would be more valuable proportionately to the extent and trustworthiness of the records. My present information is inevitably both faulty and incomplete, and can only serve as a general indication of results.

It will be convenient to adopt a tabular form referring to certified patients in the Perth Royal Asylum at the beginning of 1880, and since admitted, the whole numbers of these being 464 male and 442 female, total 906. Of that total the persons received after first or repeated attacks of insanity occurring between the ages of fourteen and twenty-five numbered 225, as follows:

	M.	F.	T.	M.	F.	T.
Persons admitted aged 14 to 25 on first attack	128	97	225			
The percentage on all admitted	...	...	...	27·0	21·9	24·8
Of whom neuropathic heredity was ascertained	102	73	175			
The percentage on adolescents being	...	...	...	79·7	75·2	77·7
Of these admissions recovered and so remaining	22	19	41			
The percentage on adolescents being	...	...	...	17·2	19·5	18·2
Of these recovered, relapsed, recovered and so remaining	14	13	27			
Percentage	...	...	...	10·9	13·4	12·0
Of these recovered, relapsed and so remaining	32	31	63			
Percentage	...	...	...	25·0	31·9	28·0
Of these no recovery was recorded	60	34	94			
Percentage	...	...	...	46·8	35·0	41·7
Total	128	97	225	100	100	100

Second only to the age period, the notable common factor in these cases is the neuropathic heredity as ascertained in 77·7 *per cent.* On all kinds of patients my percentage is 71·81, but

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these statistical results are evidently understated owing to absence or falsity of information. Still, the fact remains that there is an adverse difference for adolescents of 6 *per cent.* This is in accordance with the general finding and it is not unexpected. It is recognised that those who suffer most deeply and hereditarily from gout are those who manifest the disease in early life—the stronger the predisposition the earlier the failure. It is the same with rheumatism, which is so constantly recorded among insane families. It is obvious that the constitutional defences of the individual are innately defective. Again, the "recoveries" from rheumatism bear a close resemblance to the "recoveries" from insanity. The recoveries, the relapses, the chronic incapacity are even statistically similar. Or, taking a wider view, the medical results of general hospitals are practically the same as those of hospitals for the insane. Since Professor Karl Pearson has shown that the expectation bears a mathematical relation to the antecedent facts, this need not be laboured further. The faulty heredity finds expression in 70 *per cent.* of failures, regarding *recovery* from mental disorders as the re-establishment of mental soundness in so far as to permit of return to ordinary life without need of the care and supervision of others. I have reason to believe that this test of recovery is not universally accepted, but the word is used in that strict sense in these calculations.

We see this early failure at an average age of 19 years on first attack, an average age at death of 48 years, and an average age of survivors still insane of 42 years, so far as ascertained. Thus:

Insanity of Puberty and Adolescence.

	M.	F.	T.
Average age on first attack	19·6	18·1	19·0
" " death	40·8	60·3	48·5
" " of those alive and insane	40·6	45·0	42·5

Oliver Wendell Holmes said that "the angel of life winds up our brains once for all and then closes the cases of these seventy-year clocks," but the defective in construction notoriously run down before the wear and tear of the mechanism has well begun. The winding up has proved an ineffective job.

We are dealing with an affection which issues in failure

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in 70 *per cent.* of the whole. On the other hand, recovery is gained in 30 *per cent.*, 18 *per cent.* after the first attack, and 12 *per cent.* after one or more than one attack. In the circumstances, therefore, there is already a reasonable chance of success, and the future may afford better results. It is evident that, like other classes of ordinary insanity, this affection of puberty and adolescence is not all dementia.

Clouston says that Kraepelin applies the new designation practically to the whole group of adolescent cases described by him in 1873; but some of us have been told that we do not understand the position. Perhaps that is so, for the extension to include persons arrived at forty years of age before the first attack and the indefinite characters of the syndrome are certainly difficult to comprehend in our insular ignorance. Perhaps we might be to some extent enlightened if Kraepelin could be induced to give us a clinical demonstration of patients whose histories had been submitted beforehand. Johnstone, however, is well qualified to instruct us, and he explained, three years ago (*Journal of Mental Science*, 1905), that we must admit that up to forty years of age evolution and development are still going on. That is a hard saying for the anatomists and physiologists, who have been teaching us that the limit is a quarter of a century only. Indeed, it seems to me to be a disturbance of settled beliefs which is unwarrantable, a confusion which is misleading. No doubt the sound mind in the sound body may continue to develop, but that development is not the process which finds the boy and leaves the man. Johnstone also tells us that the diagnostic point is a peculiar and fundamental want of any strong feeling of the impressions of life. That is an observation which can be made in any ward of any asylum from which dementia præcox has been rigidly excluded. I need not pursue the details further, for dementia præcox has been so fully and frequently discussed of late years that reference need only be made to the *Journal of Medical Science* and Conolly Norman's paper in the *British Medical Journal* of 1904.

One can appreciate an insanity somewhat differentiated by the adolescent period of life in neuropathic persons; one can recognise the general appearances of protean disorders of an immature brain threatened with irreparable damage, tinged with the half-fledged experiences of life in the turmoil of sexual development and the stress of physical development. That

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these disorders are melancholic, maniacal, delusional, stuporose catatonic, destructive is evident enough and in accordance with daily experience; but they are assuredly not exclusively the manifestations of dementia præcox nor of adolescent insanity. Indeed, Kraepelin has been forced to include a case beginning at the age of fifty-six, which has not hitherto been regarded as a precocious period of life.

One does not desire to be captious about mere names, but it is admitted, and it is on proof that this group is not uniformly characterised by dementia as understood in this country, but rather included in Clouston's memorable phrase—*a tendency to dementia.*

I believe that general malaise, dyspepsia, and depression almost invariably usher in an attack of insanity. Observations throughout a long series of years have confirmed me in this opinion of Griesinger's, and the importance of the teaching of Schroeder van der Kolk in this connection. Now, Kraepelin states that he would diagnose dementia præcox if he had ascertained that vivid hallucinations and confused delusions occurred in the very beginning of the initial depression. But I have recorded numerous instances of these early aberrations in cases quite unrelated to dementia præcox as authoritatively described, and yet Kraepelin claims to be able to predict the issue on the first attack, and immediately adds that the prognosis is by no means simple (Johnstone, p. 29). It is this constant confusion of statement which arouses antagonism and leads to the rejection of this proposed change in nomenclature. One can quite well accept *stereotyped movements* as a descriptive phrase; but is there any need for us to substitute *mutism* for taciturnity or *negativism* for resistiveness? The excuse for scientific jargon is exactness of expression, but in these proposals there seems to be little to induce a change from what is already well understood in favour of any equivocal substitute. By *mute* we describe a person dumb from birth, not a person silent because delusional. By *imbecile* we describe a person mentally defective from infancy, and to write about acquired imbecility at this time of day actually prevents clarity of language.

The prognosis of a case of adolescent insanity is most difficult and uncertain. It cannot be formulated by means of any brief dictum or any outstanding symptom. There are too

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many dissenters to admit of a short way with them. Prognosis can only be the mean result of a consideration of all the factors, weighed successively and in combination. It does not differ in all the various cases of insanity—one method here and another method there. We may possibly advance to a more exact prognosis provided it can be shown that we have to deal with different diseases, if the present variety of ordinary insanity can be sharply divided by pathological findings.

Bianchi definitely rejects the conception of dementia præcox as a clinical entity, because we get no clearer knowledge of the case by so endeavouring to discriminate. He cannot decide how the disorder will end. I cannot discover that Kraepelin has affirmed that it is a clinical entity; although he leans towards the theory of auto-intoxication it has yet to be shown that the toxic nature of the group differs in any particular from that of cases occurring in the maturity of life.

In what do we gain by accepting dementia præcox and rejecting adolescent insanity as clinical conceptions? We have found the latter term useful in selecting for study certain well-marked cases, but the former affords us no such definite content. Would it aid us in practice? Would it strengthen us in diagnosis, in pathological understanding, in prognosis, or in treatment? I see no grounds for such a hope. The principles and details of treatment are identical with those applicable to other cases of ordinary insanity, the pathology is vague and unspecialised, the diagnosis is elusive, the prognosis is uncertain. Much ink has been shed over dementia præcox, many contentions have ensued, and it would appear that we shall continue to regard this untimely birth as an undesirable alien. Dr. Jones would refer it to the wisdom of Solomon, but Solomon has already spoken—"I gave my heart to know wisdom and to know madness and folly. I perceived that this also is vexation of spirit." It made him tired.

NOTE.—The discussion on this subject was adjourned from the Annual Meeting till the next Quarterly Meeting, which will be held on the 19th November, 1908. The adjourned discussion will be opened by Dr. Thomas Johnstone, and his contribution will be followed by a series of short papers by other members of the Association.

The General Secretary will be glad if members who desire to contribute to the discussion, whether able to be present or not, will send him a synopsis of their papers.

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Leucocytosis: Its Relation to, and Significance in, Acute Mental Disorders. By COLIN F. F. MCDOWALL, M.D., M.R.C.S., Assistant Medical Officer, Newcastle City Asylum.

THIS paper has for its object the placing on record of a considerable number of observations made during the past eighteen months upon the blood of the insane. It was after the perusal of Dr. Lewis Bruce's work upon the clinical aspect of mental diseases that this special subject suggested itself to me as one deserving minute and extended study. Whereas Bruce deals somewhat minutely with the various constituents of the blood, I have confined my observations to the changes that occur in the number and variety of the white blood-cells, and the relationship these alterations have to the acute mental diseases in which they are found. These researches, though still in their infancy, hold out great encouragement to the belief that in such directions we may yet succeed in arriving at a true knowledge of the pathology of mental diseases, and at the same time advance at least one step in what has hitherto baffled all research—the conditions governing the mutual relations of mind and matter.

At the outset a difficulty occurs, that of nomenclature, for of recent years it has become increasingly common to alter the designations of even the more commonly recognised forms of insanity, and to apply a great variety of names to one and the same mental condition. The consequent confusion is bewildering, but it may be here explained that throughout this essay I adhere to Bruce's descriptions and designations.

When Pasteur, Lister, and Koch led the way into a new sphere of knowledge and demonstrated the world-wide distribution and power of micro-organisms, it was scarcely anticipated that these bodies and their products would be proved to be of primary importance in the ætiology of mental diseases, yet the belief has gradually developed that here we have found the key to future knowledge regarding morbid mental processes, and it is now believed that we have demonstrated the presence of toxins in the blood of the insane—the result of bacterial action.

Though it is of comparatively recent date that the leucocyte has attracted the attention of scientific observers in its relation

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to general diseases, medical psychologists were not slow to be attracted by this fascinating subject, and Bruce and Peebles in this country, Dide, Chenais, Cannes, and others on the continent, have during the past few years published valuable material relating to the leucocyte and its alteration in number and kind in the insane.

The natural consequence of the introduction of new processes into clinical medicine has led to the employment of various terms and definitions, and it may be well to notice four of them with some care.

Leucocytosis, as is well known, means an increase of leucocytes in the peripheral blood over the number normal in the individual case, this increase never involving a diminution in the polymorphonuclear varieties, but generally a marked absolute and relative gain over the number previously present (Cabot). The number of leucocytes found in 1 c.mm. of blood varies in health between 4,000 and 8,000. In feeble shrunken persons a count of 3,000 would not be abnormal; and conversely, a leucocytosis of 10,000 would undoubtedly be highly suggestive of a pathological condition.

Leucopenia is the converse of leucocytosis. It occurs in persons suffering from malnutrition, especially the starving. In the case of the professional faster Sacco, the leucocyte count fell to 1,530 after the first week. Von Limbeck records the case of a melancholic patient who had not tasted food for seven days, and whose leucocyte count was 2,800.

Eosinophilia.—An increase of eosinophile cells is said to occur during menstruation; an immense increase is sometimes produced by helminthiasis, and certain drugs, such as camphor, pilocarpine, and nuclein have the property of producing an eosinophilia. The eosin count is lowered during a febrile condition, but in the post-febrile state there is frequently found a mild eosinophilia.

The fact that during severe muscular exercise there is a diminution of eosinophile leucocytes is of much interest. During excitement with confusion (acute mania) there is frequently, at the commencement of the disease, a marked eosinophilia. Here, then, we have a remarkable contrast in the two conditions of great muscular exertion with mental excitement, in the normal and in the diseased. The behaviour of the coarsely granular eosinophile cells clearly indicates the pathological nature of the

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condition in acute mania. That they play an important part in mental diseases shall be more fully discussed later; meanwhile it may be stated that excitement alone has no relation to their increase or decrease in numbers.

Lymphocytosis.—Ehrlich describes it as merely a mechanical process as opposed to chemiotaxis, which is the basis of a neutrophile and eosinophile leucocytosis.

As authorities differ regarding the names they apply to the varieties of white blood-cells, I shall briefly enumerate those usually recognised and described.

(1) *Polymorphonuclear or polynuclear neutrophile leucocytes.*—They form about 60 *per cent.* of the total number. Treated with Jenner's stain the cell is seen to consist of a nucleus which is irregular and frequently bilobed, staining dark blue. The protoplasm round the nucleus has scattered through it numerous small granules which have an affinity for acid dyes and stain pink with eosin.

(2) *Mononuclear leucocytes.*—They are termed large or small according as they vary in size. They are smaller than the polymorphonuclear cell and possess one nucleus only, and this occupies the major portion of the cell. The protoplasm, like the nucleus, takes the blue stain, while the periphery of the protoplasm frequently shows dark pigment and is deeply stained. The percentage value of these cells varies between 20 and 30.

(3) *Lymphocytes.*—Large cells containing a single nucleus, which is either circular or kidney-shaped and stains faintly blue, while the surrounding protoplasm is free from granules. They form about 10 *per cent.* of the total leucocytes.

(4) *Eosinophile leucocytes.*—Large polynuclear cells similar to the neutrophile cell, but whose structure is looser. The granules found in the protoplasm are larger and coarser than in the polymorphonuclear cell, they are closely crowded together and stain a brilliant red with eosin. These cells have a percentage value of ½ to 4.

(5) *Basophile or mast cells.*—Small mononuclear blood elements whose nucleus stains deeply with basic dyes. Scattered through the protoplasm are numerous large granules staining blue with Jenner's preparation. They occur only about once in 400 leucocytes.

Although these are the five varieties of white blood-corpuscles

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usually described as occurring in health, it is to polymorphonuclear and the eosinophile cells that I desire to devote most attention in this paper.

It is known that leucocytosis may make its appearance in a physiological process or in a pathological state. Concerning the former it is not necessary to say more than that it is found after a meal, after violent exercise, and in the moribund. It may be also explained that, in order to avoid a possible fallacy due to the blood phenomena connected with digestion, all my observations were made at a time as far removed from meals as possible. During the muscular exertions, restlessness, and excitement present in acute mania, we have a state closely analogous to violent exercise in a healthy person. In each there is a state of unrest, physical as well as mental. It is therefore not surprising that in both we find leucocytosis.

The leucocytosis of the moribund state is by no means invariable in general diseases. The longer the patient is moribund the higher the count reaches (Cabot). I have had the opportunity of examining the blood of only one case of insanity, which, without any intercurrent disease, terminated fatally. The patient was moribund for three days, and when a blood examination was made two hours before death very marked leucopenia was found.

Pathological leucocytosis.—The extent of the leucocytosis varies within wide limits, and it is not always easy to say what should be considered a pathological state and what should not. In order to draw correct deductions we should first know the *normal* leucocyte count of the individual, but this is not by any means always possible. Leucocytosis is found in most of the diseases which owe their origin to a staphylococcus or streptococcus infection. Many of the acute fevers show similar reaction. I would, however, refer briefly to pneumonia. In those cases of this disease which end in crisis there is found shortly before that event a marked fall in the number of leucocytes. This is a most interesting fact, because pneumonia is a disease very liable to relapse, just as certain acute mental disorders do; and my experience points to the conclusion that a recurrence of the mental symptoms is to be feared in those cases which present at their termination a low leucocyte count. Another general disease whose blood phenomena are very suggestive is pulmonary tuberculosis. In the early stages no appreciable change can be

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found in the blood. Theoretically this is the period at which any of the psychoses may develop, and in practice we find that this is what really takes place. During the late stages, when cavity formation is present, there is very marked leucocytosis. Simultaneously with this high blood count we find insane patients, far advanced in phthisis, and who had previously shown no mental improvement, making rapid and unexpected mental improvement, sometimes amounting to recovery, but only eventually to die as the result of the lung condition.

It is now necessary very briefly to refer to the three mental conditions dealt with in this paper:

(1) *Excitement with confusion (acute mania).*—Reference to any text-book will provide details of this disease in all its stages, and they need not be further mentioned. It is estimated by Bianchi that from 80 to 90 *per cent.* of these cases recover, and one sentence from that author may be quoted here: "The recovery may be instantaneous and happen in consequence of intercurrent diseases, after blood-letting (Raggi and Bergonzoli), pleurisy (Wellendick), or pharyngitis (Schultze)." In the light of modern scientific research these cases assume a new aspect, and point to paths of inquiry and treatment unthought of in former times.

(2) *Depression without excitement (melancholia).*—This well-known condition is only too familiar to all of us, and calls for no detailed description.

(3) *Depression with excitement.*—Most observers are inclined to the belief that, in all essential respects, this condition is only a form of acute mania, with this distinction, that whereas in the one there is exaltation and more or less hilarity, in the other the excitement is combined with misery and acute distress.

Clinical Records.

Excitement with Confusion: Acute Mania.

Case 1.—S. E. L—, single, æt. 33, domestic servant. Fourth attack of one week's duration. Age at first attack, 25. No history of hereditary insanity. She has always been of a nervous disposition. The three previous attacks were of the same character as the existing one.

Admitted in a very excited condition. Noisy, boisterous, and loquacious. Laughs and grimaces, meanwhile carrying on an incoherent conversation. Her replies to questions are irrelevant and facetious. Her habits are clean but her hair is untidy, and she throws the bedclothes off and becomes abusive when remonstrated with.

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Blood examination shows a leucocytosis of 5,000, while the polymorphonuclear percentage is 79. The eosinophile percentage reaches as high as 9. For the two days following admission no material change was observed in the blood condition except that the eosinophile count fell to 3·5 *per cent.* Mentally she was improving. The excitement was appreciably less, though she was still incoherent and noisy. She took her food well, but required paraldehyde to obtain any sleep. At the end of two days she was allowed up as she had become quieter and more settled. The leucocyte count was now 7,400, while the neutrophile and eosinophile percentages remained unchanged. The experiment was not a success as the excitement returned and she was as troublesome as on admission. Leucocytosis was now 12,000. This count is the highest registered in this woman's attack. She was again put to bed and at the end of a week was allowed up. A gradual improvement was noted from this date in the mental state, but the leucocyte count fell as gradually, and this prepared us for the relapse which occurred eight months later. The decline in the leucocyte count continued till it reached 4,800; no similar fall, however, was noticed in the polymorphonuclear percentage, which remained 80.

The relapse was accompanied by excitement and incoherence, but she was not noisy. The blood count showed a leucocytosis of 10,000, while the neutrophile percentage remained unaltered. This attack was of short duration, and an improvement set in which has been maintained, though unfortunately the leucocyte count has fallen slightly.

The features of the case are the low leucocytosis, occurring in a case not primary, and the marked eosinophilia.

CASE 2.—E. M. C—, æt. 41, widow, no occupation. First attack of one week's duration. No hereditary insanity could be ascertained. Married when seventeen years old, and has had a very unhappy life owing to husband's drunken habits. He died two years ago. Since then she has suffered from privation. She was of strictly temperate habits.

On admission she was wildly excited. Shouted filthy abuse on all around her. Aggressive, noisy, and filthy in her habits. Her conversation was incoherent, and answers to questions quite irrelevant. Sleep was absent notwithstanding draughts. She was too excitable to feed herself, and had to be spoon-fed. Blood changes consisted of a leucocytosis of 20,000 with the exceptionally high polymorphonuclear percentage of 96. No eosinophile cells were seen. The patient remained wildly excited for six days, at the end of which period the leucocyte count had fallen to 12,000 while the neutrophile percentage was 82. A unit of eosinophile cells entered for the first time into the percentage count. The marked excitement abated slightly but left the patient in a very stuporose and dazed condition. She would not answer to her own name, was restless, and constantly removed her clothes in attempts to get out of bed.

The contents of the bladder and rectum were voided into the bed.

Food was refused absolutely, and recourse had to be had to the œsophageal tube. Slowly the mental state improved till an occasional rational reply was given to an interrogation. The disease had now been in progress five weeks.

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Leucocytosis was 13,000, with a polymorphonuclear percentage of 80. Again the total absence of eosinophile cells was an interesting phenomenon. Erratic, unreliable, and excitable, the outlook remained bad. A basophilia of 5 *per cent.* was noted. She could not give correct answers to the simplest questions.

The stage of excitement had now passed and a gradually increasing dementia took its place. When the disease had been in progress six months the leucocytosis was 12,000, while the polymorphonuclear percentage was 82, a single basophile and a single eosinophile cell being found in the leucocyte percentage. By degrees the leucocyte count fell, and with it the polymorphonuclear percentage diminished. This patient is now hopelessly demented. States she has resided in the asylum one week. Is erratic and childish; runs after any stranger and asks him to take a seat by the fire. Her habits are clean. She has a leucocytosis of 5,200 with a neutrophile percentage of only 51, while there is a basophilia of 3. The ultimate prognosis is absolutely hopeless.

The points of special interest are the high leucocytosis at the beginning of the attack, which was a primary one, the marked diminution of coarsely granular eosinophile cells and the presence of a mild basophilia.

CASE 3.—M. E. W—, married, æt. 24. Father a chronic alcoholic; was badly brought up and poorly fed as a child. Has had two children; after the birth of each was mentally deranged. On the first occasion, twelve months ago, was melancholic, but was not certified, and recovered at home.

The present attack commenced a month after the birth of her second child; she was restless, noisy and incoherent. On admission she was much emaciated and in very poor health. Mentally she was wildly excited, noisy, abusive and foul-tongued; her habits were filthy.

Blood examination showed a leucocytosis of 8,000, with a polymorphonuclear percentage of 80. The very large increase in eosinophile cells, which had a percentage of 10, was interesting, and the phenomenon remained throughout her attack.

At the end of a fortnight her leucocyte count had reached 11,500, while the polymorphonuclear percentage fell to 61 and remained low for two months. The leucocyte count, however, kept up and reached 12,000. Her mental condition at this time was somewhat improved. She was able to be up regularly; excitement was less marked. Her conversation remained, however, incoherent, and her answers to questions were irrelevant and impertinent. She continued dirty and untidy, but put on flesh rapidly. The mental improvement was maintained, but her memory for recent events was bad. She had no idea of time, could not say how many children she had had, and generally gave the impression that her case would terminate unfavourably in dementia. The clinical examination of her blood, however, gave what I have learned to be favourable evidence of recovery, for a leucocytosis of 10,000 was found, and though the polymorphonuclear percentage was only 65, the eosinophile count reached as high as 9. The blood changes were now not very interesting, till at the end of six months a leucocytosis of 16,000 was found, with a normal polymorphonuclear percentage and an eosin percentage of 2. This hyperleucocytosis is particularly interesting, as it

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has been noticed by another worker on the subject, and though the count subsequently fell, the improvement in her mental condition dates from the high leucocyte count. She gradually became less confused, and took an interest in her surroundings and made a good recovery. Another point I would draw attention to is the presence of the eosinophile cell throughout the patient's illness.

CASE 4.—M. E. R—, single, æt. 26, housemaid. No hereditary history of insanity obtained. No cause could be attributed to the present attack, which is her second. During the three months before admission she had gradually become restless and flighty.

On admission she was very excited—asked incoherent questions in quick succession. She was not violent, but very restless.

Blood changes show a leucocytosis of 11,800 with a neutrophile percentage of 73. An eosinophilia of 7 was found. The acute excitement had gone in two days, but she remained rather noisy and very incoherent, laughing and chattering to herself. She was clean in her habits. The blood remained practically as on admission. After a month she was much more settled and would sit and sew industriously, talking incoherently to herself meanwhile. The leucocyte count was slightly raised, being 12,000, but the neutrophile percentage had fallen some points to 65. During the following months of her illness no marked change took place in the blood, but the leucocyte count was gradually falling; on the other hand, the polymorphonuclear percentage was gradually rising. The eosinophilia had continued throughout the illness and at the end of four months the leucocyte count was normal, but the polymorphonuclear percentage had reached as high as 90. Mentally, she was still incoherent in her speech and in her conduct. She was an industrious worker and her general health was good. She, however, was not putting on much weight.

The inferences to be drawn from the facts in this case are: that the disease will be of long duration, but will probably end ultimately in recovery. This prognosis is made from the persisting moderate eucocytosis and presence of eosinophile cells.

CASE 5.—E. C—, widow, æt. 57. Third attack of a week's duration. No hereditary history of insanity was ascertained.

She was admitted in a noisy excited state. She would not stay in bed, but threw her clothes off, upset her food and did as much mischief as she was able. She slept badly and was dirty in her habits; her answers were incoherent and irrelevant.

Blood examination showed no abnormality on admission, but three days later she had a very marked eosinophilia, the percentage reaching as high as 9. She continued very noisy and troublesome, incoherent in her speech, sat idly making faces when spoken to, or muttering to herself. Leucocytosis was never present while the acute symptoms remained, while the neutrophile count was also subnormal, almost without exception. The eosin cells, however, have been a constant feature of her blood. She gradually began to show improvement, was less restless, and did some household duties.

She now is quiet and contented and a useful ward woman, but is

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still easily upset and agitated. One notes the low leucocytosis occurring in a non-primary attack, the high eosinophilia found early in the disease together with a low leucocytosis suggesting a lengthy duration but ultimate recovery.

CASE 6.—J. G—, married, æt. 43. First attack of a few days' duration. No cause could be ascertained; there was no neurotic heredity.

On admission she was wildly excited. Noisy, incoherent, abusive, and dirty in her habits. Refused her food and was with great difficulty kept in bed or persuaded to wear any clothes at all.

Her blood showed a leucocytosis of 12,400 with the low neutrophile percentage of 73. No eosinophile cells were found. The excitement did not diminish; she raved and shouted almost without ceasing. Pot. brom. in half-drachm doses thrice daily was given with but little benefit. At the end of a week the blood count had fallen as low as 5,400, but the polymorphonuclear percentage improved to 87, and for the first time eosinophile cells were present to the extent of 3 *per cent.* The blood count subsequently rose to normal and the polymorphonuclear percentage also fell to normal simultaneously, but again an absence of eosinophile cells was noted. Mentally, she was very noisy, excitable and troublesome, but was now up and required constant watching; she would strike other patients or break ornaments out of sheer wantonness.

Her general health was very poor; she was pale and sallow, took her food fairly well, but slept badly. She could not answer any questions relevantly. The blood changes continued to show little alteration, and the leucocyte counts were irregular, while the polymorphonuclear percentage kept high.

This state of things continued to the present time. She now is an altogether hopeless case as far as recovery is concerned. She is noisy, incoherent, and restless. A very probable factor in the case of her disease is alcohol, but the suggestion is denied by the friends.

The almost entire absence of the eosinophile cell indicates a bad prognosis especially in this case, which is accompanied by a low leucocytosis.

Depression with Excitement.

CASE 7.—M. A. P—, æt. 52, single. First attack. No neurotic heredity; always a steady woman. For some time before admission she had attended spiritualistic meetings. On admission was very agitated and appeared oblivious to her surroundings. Accuses herself of having done many unpardonable sins. Refuses her food. Lies in bed with her arms clasped. Is restless at times and incoherent in her wailings. Blood examination showed a leucocytosis of 9,000 with the high polymorphonuclear percentage of 94. No eosinophile cells were found. She required catheterisation, and was dirty in her habits.

The leucocyte count subsequently rose to 10,400, while the neutrophile count remained as before. Gradually the mental excitement disappeared and the patient lay in bed moaning in a subdued manner to herself. The leucocyte count fell gradually and remained for four

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weeks between 4,000 and 5,000. The polymorphonuclear count similarly fell but remained abnormally high, ranging between 80 to 85. No eosin cells were found at any count. She again became restless and excited, refused to remain in bed, fell on her knees, and prayed for forgiveness. Her general health also gradually failed. She tore out her hair, refused her food, and slept badly.

This stage of excitement ultimately passed, and an increasing dementia replaced it. She became well enough to get up, but merely sat about holding her face in her hands—a position of misery. She could not tell her age or her own name, but would say in a childish fashion "Maggie wants bread." She had to be fed, dressed, and generally looked after. The blood at this stage shows a leucocyte count of 4,000, and a polymorphonuclear percentage which was 62, while for the first and only time an eosin cell entered into the percentage count.

The leucocyte count later rose to 6,000, and the polymorphonuclear percentage reached 90, while the red cells also showed some slight poikilocytosis.

She now is a hopelessly demented woman, never speaks except when spoken to, and cannot answer correctly the simplest questions.

The continued low leucocyte count indicates, especially in this case as accompanied by an entire absence of eosinophile cells, a bad prognosis.

Case 8.—M. P—, æt. 27, single, came of a neurotic stock. She had for over a year nursed a delicate relative, and also had all the cares of household duties thrown upon her.

When admitted she was very excited and restless; threw her clothes off; was incoherent in her ramblings. Prayed at intervals for forgiveness. She was too agitated to reply to any questions; refused her food; was dirty in her habits. The excitement rapidly passed off and she became silent, miserable, and dejected. As she lay in bed tears welled into her eyes.

Blood examination showed a leucocytosis of 10,000 with a polymorphonuclear percentage of 86. No eosinophile cells were found. She remained restless and agitated. Talked incoherently about her parish priest; refused her food, saying the priest had forbidden her to eat.

She lapsed into a state of silence; was resistive and perverse. She tore off a toe-nail. When the disease had lasted two months the leucocyte count was 8,500, but the polymorphonuclear percentage had fallen as low as 66, and remained so for a month, notwithstanding the fact that there was a sudden rise of the leucocyte count to 12,800.

This sudden rise was the crisis of her illness, for whereas formerly she had been in very poor general health she now began rapidly to put on flesh. Mentally, she still was silent, erratic and dull.

She would fall on her knees and commence praying at any casual moment, whether at meals or out for a walk. Her general aspect was now less melancholy, though she would not enter into conversation. The improvement once commenced rapidly progressed. Simultaneously, the previously marked leucocytosis fell, but the neutrophile percentage rose. She began to take an interest in her surroundings, could be

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drawn into conversation; her memory was, however, defective, and she still attached great importance to spiritual things.

The following are the points I would lay stress on. A moderate leucocytosis followed by a sharp rise in the blood count is of good prognosis. No similar eosin rise, however, was seen, the cells being absent throughout; and as the fall in the leucocyte count was accompanied by a deterioriation in the mental state a guarded prognosis must be given.

CASE 9.—E. D—, single, æt. 25, domestic servant. First attack of about one month's duration. Her sister was insane.

On admission was most miserable, restless and agitated. Sat up in bed wringing her hands and crying.

She refused all food, and was fed with the œsophageal tube. She was afraid apparently of those around her and shrank from any one approaching her.

Blood counts showed a leucocytosis of 12,000, with a polymorphonuclear percentage of 78. No eosinophile cell of the coarsely granular type was found, and the entire absence of these cells was a remarkable feature of the attack.

In three days she was less excitable and agitated. She was spoon-fed; dirty in her habits. The blood changes showed an increasing leucocyte count, which reached 17,000, with the high neutrophile percentage of 96. The patient was now in a typhoid condition. Temperature 101° F., pulse 130; her breath was foul and the teeth and lips covered with sordes. She was too agitated to answered any questions, and slept badly even with the aid of drugs. She remained in this condition for two days, during which time no marked changes were observed in the blood. At the end of seventeen days there was a leucocytosis of 12,000, with a polymorphonuclear percentage of 87. From this date the leucocyte count gradually fell. The patient became less excited, she lay helplessly in bed, never spoke, took her food automatically, was of faulty habits. She was very much emaciated, notwithstanding careful feeding.

The temperature remained at 101° F. Slowly but steadily the deterioration continued. She remained stuporose and the physical state became worse. The blood count was now 4,800, but the polymorphonuclear percentage had reached 90. She remained in this stuporose condition and ultimately died. During her gradual decline the leucocyte count became gradually less, while a blood examination made two hours before death showed a leucopenia of 3,500 with a leucocyte count of only 64.

The facts worthy of note are: The leucocytosis, which gradually declined but was not accompanied by a mental improvement. The complete absence of coarsely granular eosin cells.

CASE 10.—E. T—, widow, æt. 62. She came of parents who were neither of an insane nor drunken stock. She had had a great deal of trouble with polypi of the nose and had undergone several operations, none of which gave her complete relief. She gradually had worried

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herself about this trouble till she became sleepless and restless, while she also was under-fed and suffered from privation.

On admission she was thin and very dejected in appearance. She lay in bed moaning and was obviously afraid of some unseen agent. She paid little attention to what was said to her, but continued moaning. She thought that people were going to murder her, and prayed us to help her. She was restless, but remained in bed, wringing her hands. Her temperature was 101° F. She slept badly and refused her food.

Blood examination revealed a normal leucocyte count, but a percentage of 84 in polymorphonuclear cells and of 4 in eosinophiles. She continued to make no mental improvement, but began to take her food well though she still slept badly. Leucocytosis was not in evidence, but the neutrophile percentage rose to 90. Gradually the leucocyte count had risen till it reached 10,000. She now presented a picture of continued dread of something—"Are you going to kill me," etc. Her memory was good, she knew her surroundings, the day, etc., but was unhappy, bemoaning her fate.

A gradual fall followed by a gradual rise was then noticed in the leucocyte count, which ultimately reached 12,000, while the polymorphonuclear percentage also rose to 90. She was constantly in a state of dread: "Where are the knives?" "Are they going to kill me now?" and so on. She, however, took her food well and slept fairly well. This stage may be taken to be the crisis, for in a week the leucocytosis had fallen to normal; nevertheless, the neutrophile percentage kept up and with it was a complete absence of eosin cells. Mentally she became less agitated. She no longer apparently suffered from auditory hallucinations, but the depression never left her. She would formerly walk from one place to another moaning, weeping and wringing her hands; now she sits silently with her face in her hands. She never speaks; she automatically rises when meals come or exercise is to be taken, but she takes no interest in anything. At the end of five months her blood count, both as regards leucocytosis and percentages, was normal, except that the eosinophile was replaced by a basophile percentage of 2. She now is a hopeless melancholiac. No leucocytosis has been found in her case, though the neutrophile percentage still continues high. Occasionally a large eosinophile cell has been met with, but never persistently, and never anything approaching an eosinophilia. Basophile cells are present in abnormal quantities at irregular intervals. Poikilocytosis was frequently found.

What appears the most striking feature of the case is the high polymorphonuclear percentage throughout, and the low leucocyte count raised by two irregular phases of leucocytosis.

CASE 11.—M. E. S—, single, æt. 24, bakeress. First attack of one month's duration. Family history good. She made two attempts to strangle herself before admission.

When seen she was wildly excited, cried out passionately that she was a wicked women, and that she must die as forgiveness was impossible. She tried to strangle herself with her hands and a strip she tore from her chemise.

Blood examination revealed the very high leucocytosis of 30,000 with

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a polymorphonuclear percentage of 89. No eosin cells were seen. The mental state continued one of acute anguish. She was restless and excited, tried to escape by the windows, and slept badly. The blood count ultimately reached 33,000, while the neutrophile count fell two degrees. Slowly and gradually the excited state became less marked; at the same time the leucocyte count fell to 14,000, but the neutrophile percentage increased till it reached 92 *per cent.* As yet no eosinophile blood cell had entered into the cell percentages.

Dementia gradually set in. She could not answer the simplest questions; when asked her name could only give her Christian name. The leucocytosis remained high, however, oscillating between 14,000 and 20,000. The neutrophile count at the same time fell. She has at the present time a leucocytosis of 20,000, and a polymorphonuclear percentage of 82. On one occasion a single eosinophile cell was found.

The points of particular interest are: The marked hyperleucocytosis present with the absence of eosinophile cells. The prognosis must be considered bad, notwithstanding the leucocytosis remaining high, as in this case the reaction of the patient, though marked, has not been sufficiently strong to overcome the invading toxin.

CASE 12.—D. W—, single, æt. 38, waitress. Second attack of about one month's duration. Her brother was insane.

On admission she was most unhappy; said she wished to die; muttered incoherently and continuously to herself.

Blood changes showed a leucocytosis of 10,000, with a polymorphonuclear percentage of 90. Eosinophile cells were absent. She continued restless and agitated, jumping out of bed, wringing her hands and saying that she wished to die. She asked for poison. The leucocyte count had fallen to 7,000, but the percentage of neutrophile cells remained high. She was now noisy and restless. She committed self-abuse in the despair of finding anything to alleviate her misery. The leucocyte count gradually fell, while the neutrophile percentage fell to 82. An improvement slowly set in; the excitement was less marked; she, however, was easily distressed and very nervous. No marked blood changes were seen, but the eosinophile cell returned in the percentage table, and now that the woman is well she has a leucocytosis of nearly 7,000 with a polymorphonuclear percentage of 83 and an eosinophile count of 3.

Depression without Excitement.

CASE 13.—E. J—, married, æt. 60. First attack of about one month's duration. No hereditary history was obtainable. She had been in very reduced circumstances for a long time.

On admission she was silent and depressed; wished for death, and presented a very unhappy picture. She took her food badly and slept badly.

No leucocytosis was present nor was the neutrophile percentage increased. No eosin cells were found. She remained in bed and was very erratic in her mental state. At one time was in the depths of misery, whilst a few hours afterwards she would converse in quite a

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hopeful fashion. She began gradually, however, to become more cheerful, coincidently leucocytosis rose to 10,000, while eosinophile cells again formed a factor in the percentages. A week from this day she had so markedly improved that we find her industrious, cheerful, and anxious to be home again. She took her food well and slept well. The leucocytosis, however, was not maintained; it had fallen to 6,000, but mentally she appeared well. She continued to do well but was always carefully watched for a relapse, which the falling leucocyte count had warned us of. Nor were we disappointed, for within a week she was again miserable, possessed of the belief that her son and husband were dead. Again the leucocytosis rose and with it there was a slight eosinophilia, but the polymorphonuclear percentage remained low.

This acute exacerbation of misery was overcome in a few days, and from that day on she continued to do well mentally. Blood examination again showed a falling leucocytosis, however, so that when she was discharged on the urgent appeal of her husband we were not surprised when she was brought back to the Asylum with her throat cut.

CASE 14.—M. J. L—, single, æt. 50, needlewoman. Second attack of about two months' duration. She had nursed her mother through her last illness, and was in very poor condition when admitted.

She lay in bed, quietly sobbing to herself. Accused herself of killing her mother, and of having neglected her during her illness.

Blood examination showed a leucocytosis of 12,000 with a normal polymorphonuclear count and a mild eosinophilia. She remained reticent and depressed for some weeks, and then rapidly began to improve. The leucocyte count fell as the improvement set in, and after remaining about 10,000 reached 6,200, when she was discharged recovered.

The points of interest are the slight alterations seen in the blood from that found in a healthy individual.

CASE 15.—E. S—, married, æt. 56, housewife. Second attack of two months' duration. She had been in very reduced circumstances since the death of her son-in-law, who died shortly before the present attack commenced. No hereditary history was obtained.

When admitted she was absolutely silent. She lay in bed with her eyes shut, and paid no attention to anything that was said to her. She refused her food and had to be fed. She did not sleep well but was not restless.

A leucocytosis of 6,000 was found on blood examination, while the polymorphonuclear percentage was 82. No eosinophile cells were seen during the first month of her illness. At the end of a month she would answer questions put to her in a whisper and was allowed up for a short time daily. A mild eosinophilia was observed and a distinct mental improvement set in simultaneously. The improvement, once commenced, continued uninterruptedly and without any special feature. When discharged she had a leucocytosis of 5,800 and an eosinophile percentage of 6.

The unusually high eosinophile count is the only really noteworthy

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incident in this case, together with the low leucocyte count in an elderly person who had previously been insane.

CASE 16.—M. P—, married, æt. 40. First attack of about three months' duration. Uncle is insane; had been drinking during the last few weeks prior to admission.

She had attempted to strangle herself, and the night following admission repeated the attempt. Blood examination showed a leucocytosis of 11,000 with a polymorphonuclear percentage of 81, while a unit of the percentage was made up by an eosinophile cell. Repeated blood examinations during the next two months failed to elicit any marked change from the initial count. Mentally she remained depressed and reticent. Never spoke above a whisper. She again tried to strangle herself. Slowly the polymorphonuclear percentage fell and it now is normal. The eosinophile cell has disappeared from the cell percentages. Mentally, this woman remains as unhappy as ever and is constantly on the outlook for an opportunity to end her unhappy existence.

CASE 17.—M. H—, married, æt. 27. First attack of about one month's duration. She had a child seven weeks before admission.

Mentally she was miserable and dejected. Never spoke; refused to answer any questions. Had to be spoon-fed, but slept fairly well. Blood examination showed a leucopenia of 5,200; the polymorphonuclear percentage was 77. Throughout her illness the blood count has remained low, while the neutrophile percentage has never reached above 80 with one exception. The eosinophile count is normal.

She remained silent and depressed, and gradually has lapsed into a hopeless state of silence, though she does a little work.

In this case the low leucocytosis is all against a good prognosis.

CASE 18.—M. M—, married, æt. 28. Fourth attack of five months' duration. Her present attack followed lactation. Her mother is insane.

On admission she was absolutely silent. She lay in bed, answered no questions, and paid no attention to outward stimuli.

Blood examination showed a leucocytosis of 18,000, with a polymorphonuclear percentage of 58. She remained in this stuporose condition for four days, and then for the first time replied to a question put to her. The blood count had diminished 50 *per cent.* and the polymorphonuclear percentage 20 *per cent.* No appreciable change occurred in the blood during the next month. Mentally she, however, made rapid progress towards recovery. The leucocyte count subsequently rose to 12,000, while the neutrophile count fell to 50 *per cent.* Throughout the illness no change occurred in the coarsely granular eosinophile cells. The leucocyte count ultimately fell to 8,000, and the patient was then uncertifiable and about to be discharged.

The points of interest in this case are:

The unusually high leucocytosis in a case of depression without excitement, together with its singularly rapid fall.

The normal relation of the eosinophile cells is another point of note.

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Mental diseases can be divided into two great groups—those of toxic origin and those of non-toxic origin.

To instance the latter group first, an imbecile, who may be devoid of the power of speech and reasoning, nevertheless may enjoy good bodily health. Again, a secondary dement may show no signs of physical deterioration. Compare these two examples with one labouring under acute mania or melancholia with excitement. His physical characteristics are exactly the opposite. He appears to suffer from a disease of the body as well as the mind. The face is flushed and anxious, the skin clammy and moistened with sweat. The pulse is rapid and small. The whole of the digestive tract is disturbed. The breath is foul, the tongue furred, while the teeth and lips are covered with sordes. There is no appetite for food, and the bowels are confined. The urine is concentrated, and albumen is occasionally present. There is frequently a febrile temperature, the thermometer registering 101° or even 102° F. The whole condition is suggestive of toxæmia, and a blood examination confirms the suggestion.

Bruce records a case of acute mania in which the leucocyte count was 30,000. Dide, on the other hand, has not found any such marked blood changes, while Mackie records a case of acute mania in which, when somewhat improved, a leucocytosis of 10,000 was found. A high polymorphonuclear percentage is always found when the attack is in its early stages. The highest percentage present in any of my cases was 94 (Case 2). Bruce quotes numerous percentages over 80, and the highest count reached was identical with mine—94. It occurred, however, in a case of metabolic poisoning which developed typhoid symptoms and died. Dide has not been able to find an increased polymorphonuclear percentage in any of the cases he examined, but adds that further work on this subject is desirable. I have found in every recent primary case of excitement with confusion (acute mania) and in every recent primary case of depression with excitement (Cases 1–12) a leucocytosis more or less marked. The extent of the leucocytosis varies between wide limits; my results show that the leucocyte count may reach as high as 34,000 per c.mm. (Case 11). A polymorphonuclear percentage of 75–80 has been present in nearly all my cases of acute mania and depression with excitement. The blood changes in depression without excitement have

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purposely been omitted as they will be separately dealt with later.

Excitement with confusion and depression with excitement many distinguished observers believe to be very closely related, if not absolutely identical.

For a moment let us consider alcohol and its effect upon the nervous system. It is a toxic agent of great potency; the form in which it is taken is of no account, but the results of excessive drinking may be vastly different in separate individuals. In all it produces intoxication, but the psychic state varies greatly. In some there is found hilarity and light-headedness, in which excitement is a prominent symptom.

In others it produces a feeling of depression with reticence, silence, and morbidity as predominant features. Here clearly we have the same agent producing, in persons to all appearances equal, very different results, and this must be attributed to the personal coefficient. Similarly, it may be that there is as a common cause in acute mania and in depression with excitement a single toxin, and if this is so the two conditions should be considered the same disease.

Regarding depression without excitement my results are not so convincing as in the two diseases just referred to. A possible explanation is the late admission of these cases into asylums. My work shows that there is an occasional leucocytosis found even in this disease. I have noted a leucocytosis of 18,000 per c.mm. in the case of a young married woman (Case 13). The polymorphonuclear percentage was 88, but the counts fell remarkably quickly. Bruce quotes a case in which he found a leucocytosis of 13,700 and a polymorphonuclear percentage of 69. He attributes this disease to metabolic poisoning.

It is now necessary to note the chief characteristics of the leucocytosis as it occurs in the three mental diseases under discussion—the variations in the leucocytosis, and to what phases in the mental condition the blood phenomena correspond.

Primary and recurrent attacks require to be separately dealt with.

Excitement with confusion.—In this disease, when primary, there is always at the commencement of the attack a leucocytosis, which varies between 10,000 and 20,000 (Cases 2, 3, and 6). The polymorphonuclear cells are always increased in number, and form a percentage which varies between 75 and

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85, and even higher. In those cases that do well (Case 3) the leucocytosis gradually falls, so that at the end of three weeks the count is only slightly above normal. At the same time as the leucocyte count is falling the mental symptoms improve. Excitement, as distinguished from excitability, is absent, and the patient, though still incoherent, is visibly improving. After a short while the leucocyte count again rises, and with this second rise a marked amelioration in the mental symptoms takes place. There may again be a fall in the blood count, but it is followed by a similar rise, and the patient upon complete recovery has a leucocytosis of 10,000. The interchange that takes place in the blood cells is between the polymorphonuclear leucocyte and the mononuclear cell. When the leucocyte count falls the mononuclear cells are relatively increased, while when the leucocytosis rises the polymorphonuclear cell is increased in numbers.

In those cases that do not recover, still referring to primary cases only, the leucocytosis is very irregular, but the count never falls below normal (Case 2). It ranges irregularly between 20,000 and 8,000. Borrowing a term from the expression as applied to a temperature, this variety of leucocytosis might be termed "continuous." The polymorphonuclear percentage is high and remains high. It may reach 90 *per cent.* With this high leucocytosis no amelioration in the symptoms takes place, except that the excitement abates, but incoherence and irrelevance in speech continue. The habits are faulty. Weeks may pass and still the leucocytosis remains high, showing the virulence of the attack. Gradually the leucocytosis falls, and at the same time signs of dementia are found to be present. When the leucocyte count has fallen and the polymorphonuclear percentage is below 50 in a patient showing signs of secondary dementia the prognosis is hopeless (see Case 2). The outlook is always grave if the polymorphonuclear percentage falls without any appreciable mental improvement. Conversely a case must never be regarded as quite hopeless if the polymorphonuclear percentage keeps up (Case 3). Dr. Bruce had an example in which the leucocytosis was never above 10,000, and with a falling leucocyte count signs of secondary dementia were seen. Gradually, however, the polymorphonuclear percentage rose, and with it signs of mental improvement set in. Ultimately the patient made a good recovery.

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In those cases which have previously suffered from some form of insanity the leucocytosis is seldom high. It may reach to 16,000 (Case 4), but more commonly it does not rise above 8,000. The polymorphonuclear percentage, however, is high, and may reach 90 *per cent.* (Case 1). Bruce says, regarding recurrent attacks of either excited melancholia or acute mania, the reaction to each subsequent attack becomes less and less marked. Another class of patient who give evidence in their blood of little or no reaction is the senile. I have seldom obtained a leucocytosis of even limited dimensions in the old people suffering from acute insanity. This finding is quite opposed to the physiological phenomenon, that old age produces leucocytosis. It nevertheless corresponds to the actual state of affairs in regard to the acute senile lunatic. It is common knowledge that a very slight attack of acute excitement frequently precedes senile dementia. Bruce has affirmed that in an acute insanity in which there is no reaction the prognosis is bad. So it is that we frequently find old people become rapidly demented after an acute attack of insanity, for their blood phenomena show that they can offer only a small resistance to the invading toxin.

Depression with excitement.—The blood phenomena in this disease in respect to leucocytosis are so closely allied to those found in acute mania as to be almost identical in Cases 7–12. Bruce has, however, found that the leucocytosis of excited melancholia is more irregular than that of mania with confusion.

Depression without excitement.—As previously stated, a leucocytosis of 13,000 has been found in one case. Bruce maintains that when present it is due to some concomitant disease. I am, however, hopeful that when these cases are examined in their early stages a definite reaction will be discovered.

Eosinophilia.—The results published regarding the phenomena connected with the coarsely granular eosinophile cell are not uniform. McKie found no alteration in these cells in the cases of acute mania he examined. Dide's results were confirmatory. Cannes and Thermette, in their observations upon several cases of dementia præcox, found an average percentage of 4, and in one case the high count of 23. Dide, in his observations upon the occurrence of eosinophilia in the same disease, gives the mean of 95 cases. His conclusions are that when the mental

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state is about to undergo an alteration there is a rise in the number of the eosinophile cell. He finds that 10 *per cent.* is not an unusual occurrence. Bruce states that in regard to acute mania and melancholia with excitement, at the commencement of the attack eosinophile cells are rarely present. It is to be regretted that opinions differ so widely on this matter, as my observations lead me to believe that great importance attaches to the eosinophile cell, and it is the centre of very definite phenomena.

Its appearance varies as the ultimate outlook of the case varies.

In those cases of excitement with confusion which recover, there is invariably an eosinophilia found early in the disease (Cases 1 and 3). The extent of the eosinophilia varies between 4 and 10 *per cent.* The count when the excitement is at its height may be the highest. Here it may be of interest to refer to the physiological action of the eosinophile cells. There is in health a reduction of them during excitement and exertion. The converse is found in mania and excited melancholia. Clearly, therefore, we are dealing with some toxin in the blood of the insane patient, since we find exactly the opposite of what we should naturally expect. In favourable cases the eosinophile cells continue throughout the disease to be found in an abnormally high ratio. Bruce describes a second rise in the eosinophile count at the same time as the polymorphonuclear rise.

In cases that do badly the eosinophile cell is rarely found (Cases 3 and 6) during the acute stage of the disease. An occasional cell may be seen, but never is there anything approaching an eosinophilia detected. During examinations extending over several months the eosinophile cell has been found persistently wanting. When secondary dementia, however, begins to show itself the eosinophile cell again makes its appearance (Case 2), but then only in diminished numbers. The behaviour of the eosinophile leucocyte is quite definite in *depression with excitement.* During the acute stage of the disease the cell is frequently entirely absent. I have in these cases counted a thousand leucocytes and failed to find a single coarsely granular eosinophile cell. During the excitement of melancholia in those cases which certain writers would include under the heading of katatonia, the eosinophile cell is always

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absent and remains so throughout the entire disease (Case 9). When the excitement of melancholia commences to pass off and signs of distinct mental improvement set in an occasional eosinophile cell is found. There never is an eosinophilia, nor have I been able to confirm Bruce's statement that there is a rise in eosinophile cells in those who make rapid recoveries.

Finally we must refer to the eosinophile cell and its relation to *depression without excitement.*

There is, in my experience, no very definite or constant feature in its occurrence. At the commencement of the attack there is usually found a normal percentage (Cases 17 and 18). Occasionally an eosinophilia of mild proportions is met with (Case 14). There seldom is an absence of the coarsely granular eosinophile cell for any length of time.

The *basophile* leucocyte has been met with frequently in each disease. Such an increase of these cells has been occasionally met with so as to constitute a mild basophilia (Case 2). It occurred in all three diseases under discussion, but no constant relationship with any of the mental phenomena could be ascertained.

It seems to me not extravagant to hope that by blood examinations in actual mental disorders an early prognosis may be made. It is by having regard to the character of the leucocytosis and absence or presence of an eosinophilia that a conclusion can be arrived at.

Leucocytosis indicates the reaction that is taking place in the body of an individual between a toxin, the result of bacterial growth, and the production of protective and germicidal agencies, which have been termed "alexines." We therefore can by noting the leucocyte count form an opinion as to how much toxic material is circulating in the body and what attempt Nature is making to overcome the poison.

In general diseases experiments have been made relating to this matter, and three phenomena have been found to occur:

(1) If the quantity of bacteria with their accompanying toxins is so great that the animal is overwhelmed with the poison and quickly dies no reaction takes place, and consequently no leucocytosis is found.

(2) Reduce the amount of poison and there is found in the blood a marked reaction. A high leucocytosis with a large preponderance of neutrophile cells is found. Once this has

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occurred a struggle ensues between the alexines of the leucocytes and the toxins of the micro-organisms. If the leucocyte prevails the animal recovers, but if the toxin is the stronger the result is fatal to the animal.

(3) The quantity of toxin introduced is so small that the leucocyte normally in the blood can deal with it, and consequently no appreciable reaction takes place and no alteration is found in the leucocyte count.

Applying these facts to the observations made upon the blood of the acutely insane, it may be stated that in those cases in which the leucocytosis is over 18,000 and remains above that figure for more than one month, together with an absence of any eosinophilia, the prognosis is very bad. Dr. Bruce says that if the leucocytosis falls instead of rising after the acute stage is past the prognosis is bad, and especially bad if the polymorphonuclear percentage falls below 50 *per cent.* I have only had the opportunity of examining one case of acute insanity which died —that of excited melancholia in a young girl (Case 9). The leucocytosis in this instance at the onset of the disease was 15,500 but gradually fell. The acute excitement remained though the leucocyte count fell to normal. Gradually the acute symptoms subsided and were replaced by apathy and lethargy. Dementia rapidly supervened, and the patient's habits became faulty. The neutrophile percentage remained high, ranging between 80 and 90 *per cent.* At no period of her illness was an eosinophile cell found. She slowly became worse and the leucocytosis step by step became less and less. Two days before death there was a marked leucopenia, the count being 4,400. At the examination a megaloblast was seen in the blood. Death ultimately ensued, and an examination of the blood was made two hours before that event. There was a leucocyte count of 3,500, while the polymorphonuclear percentage was only 62. This case very closely bears out Dr. Bruce's theory and is quoted for that reason. An irregular leucocytosis in acute mania is of bad prognosis.

Great importance must be attached to the coarsely granular eosinophile cell. Its presence during the acute stages of the disease would signify to me that the outlook is not hopeless, but the most favourable combination is a high leucocytosis together with an eosinophilia. An eosinophilia with a low leucocytosis indicates a slow convalescence but an ultimate recovery.

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Asylum Officials: Is it necessary or advisable for so many to live on the premises?(1) By FRANK ASHBY ELKINS, M.D.

ASYLUM officials may be roughly divided into three groups. In the first group are included artisans and others who are paid weekly wages, have no emoluments, and live in their own homes away from the asylum, whilst in the second and much larger group are included nurses and attendants (estimated by the Commissioners in Lunacy to number in England and Wales more than ten thousand persons), laundrymaids, housemaids, kitchen-folk and others, who, in addition to their monthly paid wages, usually have the emoluments of board and lodging. In the third group are included chief officers and others who are provided with houses, cottages and apartments on the asylum estate. The weekly paid or artisan class are, as a rule, well paid, contented, and of long service. They do not lead a cloistered life, and it is not with them that this article deals. As to the second group, the public now happily recognises the unselfish labours of the large army of workers in direct attendance upon the insane throughout the country, and it is not necessary to enlarge upon their usefulness to the community. Their hours of duty are very long, their pay is not large, and the restrictions and disadvantages under which they work are very great. Probably all asylums have allowed a certain number of these officials to board and lodge off the premises. Some asylums may be more favourably situated than others, and thus have done more in this direction, but the writer thinks that at all asylums more could and should be done towards de-cloistering the staff. In an asylum constructed to meet the circumstances and placed in suitable surroundings, the sane resident population could be reduced to very moderate proportions. It is urged that when the abnormally long and trying hours of duty are over, as many officials as possible should be altogether freed from institutional restraints. The cost of the erection of asylums would be decidedly lessened if they were built to provide accommodation only for (1) the patients, (2) such members of the staff as must of necessity be boarded and lodged on the premises, and (3) such officials as

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must have houses provided for them on the estate. Has any asylum authority ever prepared an estimate showing the cost of the erection and upkeep of quarters, and of the provision of necessities and conveniences of every description specially made for members of the staff who do not need, for any particular reason, to be provided with lodgings on the asylum estate?

If, on the male side of an asylum, there are sufficient staff living inside, in case of fire, or to be near at hand should the night staff require assistance, there is surely no necessity for others to sleep on the premises. Some have urged the necessity of building cottages on the asylum estate with a view to keep the married attendants within call and under institutional control, and though still an advocate for the building of asylum cottages, the writer is now convinced it is better to allow the demand to create the supply off the estate, whenever this is possible. It is as well to consider the possible disadvantages of asylum cottages. Asylum authorities do not appear able to build as cheaply as the local builders. When the asylum authorities have built a cottage for a certain sum, they naturally desire that the rent shall be in proportion, so that the ratepayers' pockets shall not suffer unnecessarily. If, however, this decision is adhered to, one of two results follows. Either the attendant is compelled, perhaps against his will, to live in the cottage in lieu of receiving lodging money and choosing his own home, or else there is difficulty in letting the cottage because the neighbouring cottages suitable for attendants and built more cheaply are let for a less rent. An asylum official may wish to leave his cottage, perhaps because he dislikes his neighbour in the next cottage, or because he sees a cottage vacant which he covets as a home, yet he is deterred from moving because he fears he may lose his lodging money and perhaps his post too if he gives up the asylum cottage. With the best possible intentions, too, the committees of asylums place certain restrictions upon occupiers of their cottages. For instance, they perhaps may not have guests to sleep in their houses without the consent of the authorities, for this may lead to lodgers, their houses are regularly inspected to see that they are kept in good order, and to ascertain what repairs are necessary, and although in the country maybe, they may not keep dogs, poultry, or pigs, for profit or amusement without consent. In fact, the asylum atmosphere pervades the

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homes. The proud vaunt that an Englishman's home is his castle, frequently does not apply to asylum officials' houses. A tenant likes to make his own bargain with his landlord, and when he has rented the house, no matter how humble, he likes to feel he only is master of it. As cottages are being advocated and being built all over the country, it is well to bear in mind the disadvantages from the attendant's point of view. Surely it is better for married attendants to live as ordinary individuals among the general community, leaving their work and its surroundings when that work is done. When attendants and their families live together, often in a kind of compound, the men never escape from the associations of their work, their companions and associates are all similarly employed, the women and children never get away from the asylum life, and the individuality of the home is greatly destroyed. It has been suggested that the night attendants sleeping outside will not take proper rest, and so will not efficiently perform their duty. Experience does not confirm this, and an official who does not perform his duty properly should be dismissed from the service.

Let us now turn to consider whether it is not possible for some of the female staff also to live off the premises. The public is now happily accustomed to see the village nurse and the Queen's nurse living like ordinary folk among the general community. Anyone who has seen the stream of respectable and well-behaved women pouring into and out of London and other large centres of population every morning and every evening to engage in business or other pursuits, knows how ridiculous is the belief that women—even young women—cannot look after themselves. On the contrary, they are treated with the greatest consideration by the travelling public, and it is rare indeed for them to show by their actions that they are unfit to move about without chaperones. Even in asylum service nurses and other female officials on leave for the day or after duty from 8 p.m. to 10 p.m. are allowed to do exactly as they please, although it is considered essential, no matter how long their service or how old they are, that they should sleep in the asylum under the motherly and vigilant eye of the matron! As on the male side, a certain number of day nurses must always sleep within call of the night nurses, in case of emergency, and these should preferably be those who have last

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joined and who are in training as asylum nurses. This will give the authorities time to decide whether a new nurse is suitable for the work, and she can decide whether she feels able to continue the occupation. But in every asylum there must be many nurses and other female officials whose characters are well known, who it is certain would lead such lives outside as would bring credit to the asylum, and there is no reason why such nurses should not live off the premises. The unmarried village dressmaker, school-mistress, and district nurse live among the community without reproach. In an old-established asylum it will be found that quite a perceptible proportion of the female staff have near relatives with good homes in the immediate locality, some near kin actually coming purposely to live near a daughter or a sister employed in the asylum. For the nurse of long service who has no relative at hand, the wife of an artisan or attendant earning good wages is often willing to receive a respectable lodger in her clean cottage, and why not? Female officials thus join a family circle when off duty, and what could possibly be better for those whose days are mostly spent in tending insane patients? Former nurses, now married and living near, are also often glad to receive old friends and former colleagues. Experience shows that nurses so lodged are happier and healthier. It might be thought that nurses would find a difficulty in being on duty at 6 a.m., but in a working population, and especially in the country, early hours are the rule for everybody, and no difficulty is experienced. It must be remembered that the rooms vacated in the asylum increase the accommodation for patients. In recent years it has been the fashion to build nurses' "homes," some very elaborate ones, in order to make the lives of asylum nurses more bearable and less sombre. May we not now ask ourselves, have these nurses' "homes" been a real success? Do we find them appreciated as much as we hoped? Some, at least, of us feel reluctantly compelled to answer in the negative. Whenever the weather permits most of the nurses prefer to be off the premises, and do not stay in their so-called "home." Wet days keep them in the privacy of their bedrooms writing letters or attending to clothes, reading a book, or resting. The nurses' sitting rooms are really only used when there is a little time to waste at meal times. It would be of greater service to the public to convert asylum nurses'

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"homes" where possible into villa residences for patients of a suitable kind, paying a moderate board, a class of the community badly provided for in England.

What officials is it really necessary to provide with homes upon the asylum estate? Are there not far too many houses, as a rule, provided? It is acknowledged by all that, as head of a large medical institution, the medical superintendent of an asylum must always be resident on the estate, and whenever, day or night, he is absent from duty, his deputy should take his place. As a matter of fact he is invariably provided with a house and allowed to marry. His house should certainly not form part of the main building. It should be surrounded by its own garden, and preferably should be directly approachable from the public highway, so that the household of the medical superintendent shall not mix in any way with the asylum community, and so that the medical superintendent, when he seeks some rest, may have privacy, and may feel that he really is off duty although within easy call. Leading the cloistered life he does, the visits of acquaintances and friends should be encouraged, but the knowledge that a call at the medical superintendent's house means passing through the main entrance gates, having one's name booked, and walking or driving right up to the asylum building, deters many visitors; and other institutional regulations of a similar kind act unfavourably to those whose houses are similarly placed. It is notorious how many medical superintendents devoted to their work break down at a comparatively early age, so that it is reasonable to ask that the unfavourable surroundings in which they live should be made as favourable as possible, and that the fewest possible institutional restrictions should be imposed. The importance of children not mixing with an insane community when their habits and characters are being moulded, and the unwisdom of having sane persons who are not officials subjected to sights, sounds, and smells, not to speak of bad behaviour, all the result of disease, emphasise the importance of building houses, where these are really necessary, with the doors opening off the estate. The medical superintendent, on account of his position and in spite of the disadvantages he labours under in living within the asylum gates, can generally manage, with some little effort, to have as many acquaintances in the neighbourhood as he desires, but the case is often different with the assistant

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medical officers, the matron, the assistant matron, the superintending and head nurses, the steward and other chief officers, female and male, occupying positions of high trust and responsibility. So far as the neighbourhood is concerned they may live, unless special efforts are made, as a class apart, and under a sort of social interdict. In such cases the asylum gateway becomes an impassable barrier, and outside persons in the same station of life either may not wish to know people living in an asylum, or may not even know of their existence. Special regulations, too, discourage or prevent visits altogether. Being thrown upon each other for society, conversing upon little else but asylum topics, and living in close daily contact with the insane, they are apt to become pessimistic, hypersensitive, soured and dissatisfied with their lot, unless they are able to cultivate optimism and enthusiasm under depressing circumstances, take up athletics or other hobbies, or earnestly set themselves to take an interest in the outside world. Some asylum authorities, in the case of assistant medical officers, have actually arranged that each officer must be re-elected after the lapse of a certain time, and annually thereafter, evidently considering that it is not good in some cases for medical men themselves or the institution that they should be continued in the service. With some chief officers, alas, who should never have taken up asylum work, and who do not leave so soon as they discover their error, life tends to be less and less roseate, there is more and more centering of their thoughts upon petty details and grievances of asylum life, they often cannot be induced after duty hours to leave the surroundings in which they work, and at last, being compelled to resign, they become pathetic figures, more or less wrecked in health, middle-aged, without an occupation, and lucky if they get a small pension. In an asylum where medical emergencies so frequently occur, it is absolutely necessary that there should be sufficient medical help readily available day and night, but at large asylums, where there are two, three, or more assistant medical officers, the writer does not see why the senior or other assistant medical officer, if he desires, should not be a married man with his house on the fringe of the estate and outside the curtilage proper of the asylum grounds, or even off the estate. Such an arrangement would remove a real grievance of the senior assistant medical officers of large asylums, who at present are com-

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pelled to lead celibate lives, although holding positions of considerable trust, and often by no means youthful. Of course, such a medical man would have fixed hours of duty with time for meals, and it would be clearly understood that when the medical superintendent was off duty, day or night, the senior assistant medical officer must take his place as a resident medical officer. Such an officer would lead a more natural life, and would have what every man after a certain age has a right to expect—a home. It is a much better way than providing a house for him within the curtilage, and bringing within the asylum gates another family. This arrangement would not be a reversion to the old practice of visiting physicians, as the medical officer would clearly still be an assistant to the medical superintendent.

It is almost a religious axiom, more especially near the Metropolis, that the steward (often the assistant steward, too) must reside on the asylum estate, yet that well-known and large institution, the Royal Edinburgh Asylum, not to mention other asylums, has been successfully administered for years, although the steward and assistant steward live in their own homes off the asylum premises. Can it be seriously believed than anyone intending to rifle the stores would be deterred by the knowledge that the steward lived on the asylum estate? The chaplain is another official for whom a house need hardly be provided. With so much machinery about, and in case of fire an engineer is a suitable official to have a house on the estate, but a foreman of works does not need one. With an efficient head night attendant there is really no reason why the senior or other head day attendant should be provided with a house. Similar considerations should be taken into account in deciding who should and who should not be allowed housing accommodation on an asylum estate. To take an extreme example of what should not be. Assuredly a grave-digger ought not to be supplied with a cottage adjoining a graveyard, in which he and his wife are to live and bring up a family, under the most melancholy surroundings and under all the restraints which result from living on an asylum estate.

Any suggested scheme by which pressure in an asylum laundry can be relieved is worthy of consideration. To erect and equip an asylum laundry in accordance with the standards

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considered necessary by those who supervise and manage asylums is a costly business, and the expense does not end with erection and equipment, paid labour being a considerable item year by year. At many asylums patients capable of doing efficient work in the laundry or elsewhere are yearly decreasing, whilst the percentage of patients for whom much washing is required on account of their faulty habits or bodily infirmity is on the increase, so that there is a constant demand for more paid help. Lady visitors to asylums are nearly always impressed with the beautiful way in which the caps, cuffs, collars, aprons, and uniforms of the staff are "got up," but it may be asked how far is all the time and labour thus entailed at the public expense justified? Some, at least, of the laundry equipment, with paid labour in proportion, is mostly or wholly provided for the staff washing. Many asylum authorities have become so alive to the cost of the staff washing that they have limited the number of articles which each indoor official may send to the weekly wash. The linen of the village nurse "got up" by the local washerwoman may not look so immaculate and smart as that of her sister in the hospital, yet it is clean, looks fresh, and serves its purpose. Whilst uniform is to be encouraged as showing the profession of the nurse, it is not worthy of worship and does not of itself constitute the nurse.

It might be thought that the risk of the introduction of communicable diseases among the patients would be increased where so many officials in direct attendance upon the patients come daily to duty from their homes and lodgings in the surrounding neighbourhood, but in practice this has not been found to be the case. When the medical practitioner in attendance upon an asylum official's family discovers such a disease as scarlet fever in the house, the custom—well-known both to the medical men of the locality and to the members of the asylum staff—is for the official to stay away from duty upon a medical certificate stating the cause. He is thereupon required by the asylum authorities to be absent from duty until his medical attendant can certify that no harm is likely to result to the asylum community if he resumes work, the committee paying the wages in full during such enforced absence. The visits of patients' friends, many of whom are slum dwellers, are much more likely to introduce communicable disease into an asylum

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than officials living, as a general rule, under the healthiest circumstances.

A great deal more could, and should be done in the way of allowing asylum officials to have their meals off the asylum premises. Where it has been done, the improved health, more especially of some of the older staff, is very evident, and no doubt has been brought about by the compulsory short walks in the open air before and after each meal, by the suitable diet, and by the pleasant home surroundings in which the meals are taken, together with the fact that the long day, from 6 a.m. to 8 p.m., in the asylum is completely broken into four parts by pleasant interludes. The dietary scales in force at most asylums are very generous. Indeed, a thrifty housewife, if shown the raw materials, would at once say that with some slight and inexpensive additions she could feed her husband, herself, and her children with the amount apportioned to one official. In recent years the diets of asylum officials have, in consequence of recurring complaints, nearly always sympathetically considered, become more and more generous. Yet it is notorious that however generous, however well cooked, however well served, and however varied the dietary is, it does not satisfy a great number of the staff. The long hours of harassing duty, the confinement to wards, be they ever so well ventilated, and the nursing of patients of dirty and disgusting habits, particularly noticeable in infirmary asylums, these all undermine digestion, develop capricious appetites, and fully explain the grumbling at meal times. The officials who most enjoy asylum diet are the newly joined, because they are not used to such good fare. Tastes vary enormously, and if, too, the appetite is impaired, an official would much sooner have money in lieu of food, and so make it possible to have meals prepared to his liking. Moreover, if a married man, he has to provide food for his wife and family, and it would therefore be a distinct gain for him to take board-money home and share the family meal. It must at once be granted that it is possible to carry on an asylum by refusing to listen to complaints respecting the excellent food provided, and by getting rid of those who grumble at the meals. This has often been the attitude of asylum authorities, but it is not in the interests of the patients to bring about the resignation of good nurses and attendants just because the nature of their occupation interferes with appetite

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and digestion. One cannot, of course, treat officials with capricious appetites as one would a patient by continually changing the diet, but if real endeavours are made to board out as many officials as possible, then those taking their meals inside will either be newcomers or else those who remain by preference, and so the whole difficulty will be solved. The difference in the state of health between a male attendant who boards and lodges in his own home and one of similar length of service who boards and lodges in the asylum is very marked. It has been seriously urged that if asylum officials are given money in lieu of board they will be likely to steal the patients' food. For this reason some think it most advisable that nurses and attendants employed in the day time, and who see to the distribution of the patients' food, should certainly take their food in the asylum, that night-nurses and attendants receiving an allowance in lieu of board should be made to pay for food eaten during the night, and that those employed in the preparation and distribution of food, such as bakers, stores porters, kitchen men, mess-room attendants and general porters should also take meals at their work. In other walks of life to treat a person of known character and long service as a potential thief would be considered very improper. The elaborate precautions taken when issuing food from the stores and the constant supervision of supervising officers should soon detect thieves, and detection means dismissal. There are other things to steal in an asylum besides food, and if the same argument were universally applied, every asylum official would have to be systematically searched each time he passed the asylum gates. Moreover, asylum officials are now drawn from a respectable class of the community and have a position to maintain. The writer very much doubts whether a really accurate estimate has ever been prepared showing the cost per head of boarding asylum officials. Besides the cost of food and drink there has to be taken into account the labour and other expenses of the garden—for it is surprising how much of the garden produce requiring much labour is used by the staff—the provision and furnishing of messrooms which might in some cases serve other and more profitable uses, the labour in the kitchens and messrooms, the provision of napery, glass, crockery and cutlery, the cost of the laundry, and lastly, the cost of cooking and cooking appliances, many expensive cooking

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appliances being got expressly for the staff. The amount allowed for board to the few officials usually allowed to live out is reckoned as approximately the worth of the emoluments, but if more attendants and, perhaps, female officials, such as night nurses, boarded out, and if the clerks' mess, the bakers' mess, and the messes for kitchen men, stores porters and general porters were altogether discontinued the result would be economy to the institution and satisfaction to the staff. The question whether labour could not be reduced in the gardens, the kitchens and the mess-rooms would then arise. The privilege cannot, however, be extended to all the staff—for instance, a fire-brigade must always be on the spot.

Some deny that asylum officials living long in close contact with the patients tend to degenerate in mind and body. In July, 1906, in answer to a question in the House of Commons, the President of the Local Government Board replied that roughly speaking in any given year 1 *per cent.* of the average number of attendants employed in asylums became insane. This figure, he added, was slightly in excess of the percentage of insanity in the general population between the ages of twenty and fifty-four. He might have added that it was the general rule of asylum authorities to choose men and women who are much above the average as to physical condition, and, therefore, that such officials should be *less* likely to be affected. No account, too, is taken of the fact that many stay such a short time in the service that the risks they run are very slight. Those who have had much to do with asylums know that short of insanity a number of breakdowns in health, due to the life led, occur among the staff, particularly among those closely and constantly in contact with the patients, and that officials who resign "for a change" often do so because they feel they cannot continue the work without risk of breakdown. Any reasonable steps, therefore, which can be taken with a view to reduce the risk of breakdown should be most carefully considered by asylum committees.

Some have urged the necessity of asylum authorities looking after the lives and morals of the staff when off duty, and these good people have explained that this is why officials should not be allowed to live out. Surely it is the business of full-grown men and women to look after their own lives and morals, and people who cannot do so are not suitable to take upon

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themselves the great responsibility of caring for the insane. Asylum authorities have quite enough to do in seeing that the officials perform their duties efficiently. It cannot, however, be for the best for an unnecessary number of nurses, attendants, and others when off duty to be subjected to the sights, sounds, and smells inevitable in asylums and to live for the most part of the twenty-four hours in close contact with insane patients, many of whose expressions and actions tend to be debasing to morals. As a matter of fact, the indoor life is demoralising and throws unusual temptations in the way of officials, so that it is surprising to the writer, not that a few fall, but that the large majority pass scatheless through the ordeal. On the contrary, a large body of married attendants living out will produce a healthy public opinion which will mature and become more powerful in the future in its influence upon the younger staff, whilst the female officials who live out will be living under less dangerous circumstances. The public opinion of a village is largely influenced by the middle-aged and elderly. They are the persons who unerringly point out the man or woman to be avoided, so that everybody knows the risks run in having anything to do with such persons. Young women desiring to be considered respectable dare not be seen in such company. Village gossip when it pulls to pieces the lives and characters of neighbours may be hateful, but it certainly serves a useful purpose by acting as a warning, a deterrent, or even as a punishment. A single woman living in a village has every incentive to make herself respected by those among whom she lives. The lot of the newly-joined nurse, usually taken straight from a good home, but often with little or no experience of the world, at a large asylum where most of the staff, male and female, live in, is very different. She is at once placed in a difficult position. She has no middle-aged and elderly acquaintances who know the life—so apt to be demoralising and full of temptation—she is called upon to lead, and who can hold up the warning finger. There is no healthy public opinion and no gossiping village circle to make her extra careful how she walks. It is idle to expect the matron of a large asylum to watch and know what each female official does when off duty, though she could supervise a small indoor staff. Can the good people who think that nurses must sleep in the asylum prove that this form of cloistering has

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resulted in asylum staffs being noted for a higher standard of morality and for leading better lives than the rest of the community? If a man or woman is straying upon doubtful paths, he or she will not be deterred by being compelled to eat and sleep within the asylum. The public-house resorted to for social purposes, particularly by those who have no good homes of their own, naturally proves a great attraction to too many indoor asylum officials, with the result that many a promising young man develops drinking habits, and loses his character and his post. When a man lives out he soon finds himself with a home, a wife, and family, and these responsibilities and incentives to keep his post, with the force of public opinion behind them, may be relied upon to prove the best stimulus towards leading a reputable life. It is idle to compare the lives led by asylum nurses with the lives led by hospital and infirmary nurses, for the circumstances are quite different, but it may be hazarded that it would be better from the health point of view if hospital and infirmary nurses, long at their work, did not always live amongst their much less trying patients. Village and Queen's nurses have as high a standard of life as hospital or infirmary nurses, indeed it has often been stated that the influence of their lives upon the general community is all to the good. It seems as if the greater freedom will lengthen service, will diminish breakdowns, will make the post more worth having, and will attract a better class to the service. Nurses who have mothers or other relatives to support will make a home for them in the locality.

It has often been said that nurses and attendants cannot be induced to stay in asylum service unless the institution is very near to a town where shops, crowds, and places of amusement abound. Such an apology for constantly resigning officials is plausible, but experience proves that the possession of a home or suitable lodging is a much more potent factor in lengthening service. Out of pity for their cloistered life, and with the object of affording them reasonable amusement which may keep them out of harm, the chief officers and committees of asylums spend much energy and time in getting up entertainments for the staff, especially at the festive seasons, but when once an official lives out he rarely troubles to put in an appearance on these occasions, thus proving that the social life of the village is all-sufficing.

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Where so many officials live in an institution, the question was bound sooner or later to arise, what emoluments shall each official be allowed? How often shall these windows be cleaned on the outside for this official? Shall this man be allowed to have his carpets shaken twice a year? How many clothes may this person send to the wash without charge? Does the emolument "vegetables" include flowers, herbs, and fruit? Is this official who is allowed a fixed quantity of coals also to get sticks to light his fires, or must he buy fire-lighters or wood from the outside? Such inquiries must be worrying to committees, and are highly vexatious to those who are unfortunate enough to have houses or apartments within the asylum gates. Unless there are very good reasons indeed, the restrictions placed upon officials living in an asylum should be very small in number, bearing in mind the lives they are compelled to lead. The obvious and natural remedy is to have as few sane residents as possible to live upon the estate.

An asylum is intended for the patients, and all arrangements connected with the institution or the staff must be subordinate to the patients' interests. To improve the lot of officials on the lines suggested by this article implies more skilled and trained service by a more contented and happier staff, less break-downs and resignations, fewer raw hands on duty, and therefore less risks to the patients. Whilst asylum officials in following their vocation, give, as a rule, without stint, their best services to the insane, and are subject to all sorts of disabilities and restrictions when on duty, it does not seem reasonable that their lives when off duty should be—

"Cribbed, cabined and confined."

(1) A paper read at the Annual Meeting, July, 1908. The discussion on this paper was postponed till the Quarterly Meeting in November.

Some Aspects of Inebriety. By Lady HENRY SOMERSET.

I FULLY appreciate the very great honour which has been done to me this afternoon in asking me to speak of the experience which I have had in nearly twenty years of work amongst those who are suffering from alcoholism. Of course

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you will forgive me if I speak in an altogether unscientific way. I can only say exactly the experiences I have met with, and as I now live, summer and winter, in their midst, I can give you at any rate the result of my personal experience among such people. Thirteen years ago, when we first started the colony which we have for inebriate women at Duxhurst, the Amendment to the present Inebriate Act was not in existence, that is to say, there was no means of dealing with such people other than by sending them to prison. The physical side of drunkenness was then almost entirely overlooked, and the whole question was dealt with more or less as a moral evil. When the Amendment to the Act was passed it was recognised, at any rate, that prison had proved to be a failure for these cases, and this was quite obvious, because such women were consigned for short sentences to prison, and then turned back on the world, at the end of six weeks or a month, as the case might be, probably at the time when the craving for drink was at its height, and therefore when they had every opportunity for satisfying it outside the prison gate they did so at once. It is no wonder therefore that women were committed again and again, even to hundreds of times. When I first realised this two cases came distinctly and prominently under my notice. One was that of a woman whose name has become almost notorious in England, Miss Jane Cakebread. She had been committed to prison over 300 times. I felt certain when I first saw her in gaol that she was not in the ordinary sense an inebriate; she was an insane woman who became violent after she had given way to inebriety. She spent three months with us, and I do not think that I ever passed a more unpleasant three months in my life, because when she was sober she was as difficult to deal with—although not so violent—as when she was drunk. I tried to represent this to the authorities at the time, but I was supposed to know very little on the subject, and was told that I was very certainly mistaken. I let her go for the reasons, firstly that we could not benefit her, and secondly that I wanted to prove my point. At the end of two days she was again committed to prison, and after being in prison with abstention from alcohol, which had rendered her more dangerous (hear, hear), she kicked one of the officials, and was accordingly committed to a lunatic asylum. Thus the point had been proved that a woman had been kept in

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prison over 300 times at the public expense during the last twenty years before being committed to a lunatic asylum. The other case, which proved to me the variations there are in the classifications of those who are dubbed "inebriates," was a woman named Annie Adams, who was sent to me by the authorities at Holloway, and I was told she enjoyed the name of "The Terror of Holloway." She had been over 200 times in prison, but directly she was sober a more tractable person could not be imagined. She was quite sane, but she was a true inebriate. She had spent her life in drifting in and out of prison, from prison to the street, and from the street to the prison, but when she was under the best conditions I do not think I ever came across a more amiable woman. About that time the Amendment to the Inebriates Act was passed, and there were provisions made by which such women could be consigned to homes instead of being sent to prison. The London County Council had not then opened homes, and they asked us to take charge of their first cases. They were sent to us haphazard, without classification. There were women who were habitual inebriates, there were those who were imbecile or insane; every conceivable woman was regarded as suitable, and all were sent together. At that time I saw clearly that there would be a great failure (as was afterwards proved) in the reformatory system in this country unless there were means of separating the women who came from the same localities. That point I would like to emphasise to-day. We hear a great deal nowadays about the failure of reformatories, but unless you classify this will continue to be so.

You get women, for instance, from Battersea and Clerkenwell doing pretty well. The woman from Battersea is beginning to get back some of her self-respect. The woman from Clerkenwell is also recovering. Then there comes a woman who previously lived in the same street with one of them, or at all events in the same locality. We can imagine the old companion saying: "What! you here? Are you turned good now?" and all the usual chaff. Immediately that woman is dragged back to her former condition by meeting the companion of old days. These women must remain companions for many months, as they are both consigned to the same institution, and it is almost impossible to benefit them. I think London people should be dispersed, and the country people

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also should be dispersed, and there should be a general system of reformatories, so that each reformatory should take people from various localities instead of each locality dealing with its own inebriates, as at present. This can only be done by some system of centralisation, centralising those reformatories instead of giving them over to the Council of that particular district. I think there has been some want of classification among habitual inebriates.

Many criminals may drink as an incident in their life of crime and yet are not primarily inebriates. Many inebriates may commit crime and yet not be criminals; and I am sure that until this has been very clearly recognised we are not going to do very much in regard to public institutions for reforming women. I cannot emphasise this too strongly. There are women who are inebriates who will commit great crimes under the stress of drunkenness, and there are criminals to whom drunkenness is part of their life of crime. These two have not been sufficiently separated and classified up to the present time. The patients who come to us number about seventy in each year, and as a rule are people who take ordinary alcoholic beverages to excess. There are those who take medicated wines, and proprietary medicines containing large proportions of alcohol, and there are those who drink methylated spirits. I do not know how far this form of drinking is indulged in, but it came to me as a surprise during the last few years to find how many people there are who drink methylated spirits, and how exceedingly difficult it is to cure those who have that habit. I suppose it is because the physical conditions produced by such a poison as that must be specially bad, and worse that those produced by other alcoholic beverages. Alcoholism has, in the lay mind, been regarded too much as a taste for pleasant stimulation, but I am certain it is not the taste of alcohol, or of wines, or of pleasant drinks, that the alcoholic is after. He or she is after a sensation, and whatever produces that sensation quickest is the beverage or the drug to which they will become addicted. That is why I think people will gladly drink anything, even such horrible stuff as methylated spirits. I have known a woman go down in the night and drink the paraffin out of the lamp. Anything that produces that particular sensation for which they crave satisfies the individual; and having ex-

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perienced it once they want to experience it again and again. Another thing which has come to me very strongly is this: I do not know that I have ever come across a woman who knew she was drunk. She might know after she had recovered her senses that she had been drunk, but at the time I do not think these women have the slightest idea of their drunken state. They think themselves very brilliant in conversation, or more adequate to meet a situation, or more racy than usual, but nothing more occurs to them at the time. That is the reason why I am sure that time is of such importance in such cases. One hears people talk of women who can be cured of drunkenness in three months, four months, or six months. I believe little or nothing can be done under a year, because for the first three months they are unable to think or discriminate at all reasonably. We have to talk to the women about their health and things which may interest them. I never think it best to attempt to bring home to them the sin of drunkenness during the first three months of their residence with us, because they cannot grasp it, or, in fact, face any difficult questions. That is why relatives often mistake the best way of dealing with them and talk unwisely and prematurely. It is impossible to bring anything home to them until their minds are clear and restored, and until they have regained a certain amount of normal health.

Amongst the drug-takers we come across every conceivable form. Women will take opium, morphia, and chlorodyne in great quantities. Chlorodyne is one of the most dangerous drugs because of the fatal ease with which it is obtained. I have myself taken fifteen empty bottles out of a woman's trunk on her arrival, and I knew that that was only a small portion of what she had recently taken. People think it is a harmless drug for colds, but they do not realise how the chlorodyne habit is quickly formed. The same may be said about cocaine and veronal. It seems to me that the practice of taking these drugs is growing rapidly. We have women from almost every class of society, but there is one feature which is common to all classes. A woman entirely loses all trace of interest in her personal appearance. They become absolutely careless how they look, whether clean or unclean. Educated women come to us as dirty as the poorest who come from the slums. This is especially marked in the case of drug-takers, because drugs

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seem to deprive them of all their personal self-respect as well as of moral self-respect.

We have to ask ourselves often, What are the causes which produce this state of things? From what causes do these women sink so low? It is useless for me to reiterate to this audience, so well versed in the subject, what are the causes which are apparent. When we think of the poorer classes, and we consider the unhealthy conditions, the terrible atmosphere in which these women have to live, the horrible conditions in which they pass most of their existence, it is no wonder that they should seek for something which acts as a solace and gives them forgetfulness for the time being of their misery. There is another feature of life which, I believe, affects the women of the poorer classes in this country and the women of the lower middle classes to an extraordinary degree, and that is the absolute monotony of their lives. I have had that brought home to me over and over again. Think of the life of a working man's wife living in a city, especially in the poorest classes. We must realise that from year's end to year's end, except perhaps for one picnic in the country in summer time, she does not know what pleasure means. We have no places of wholesome good recreation for men and women who cannot afford much money, such as you find in France or Germany, where they can go into gardens and listen to good music, and where light wholesome refreshments can be procured at very little cost. Such places are to be found everywhere abroad, but in England I have realised over and over again that there is absolutely no means of giving any sort of recreation to women who live in the cramped conditions of our slum areas; but strange to say we find that much the same conditions hold good with the women of the lower middle classes. It is impossible to conceive how extraordinarily dull life is to those who have no mental resources, and when they begin to take a little alcohol to forget the monotony of life by some form of stimulation, slight at first, but increasing afterwards, we see how easily they become habitual inebriates. This question of recreation is one which should be seriously considered among those who are looking and working for the welfare of our people at this moment. Among those who are in more affluent circumstances we find often the exact opposite. Women are spending their lives in one long rush of engage-

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ments and amusements, and they have recourse to alcohol or drugs to produce a sort of sham vitality in order to get through the plan of life which they have laid out for themselves. So there are the two extremes to deal with: that form which is constantly seeking excitement and trying to maintain an excited condition, and those who are suffering from that terrible monotony which I have mentioned. Drunkenness among women is undoubtedly on the increase. There is one feature which, I think, is accountable also to a large degree among the poorer classes, and that is the unwholesome food which is their staple diet. I was living for four years, before I went to live permanently at the Colony in the heart of the East End, and there I had the opportunity of watching the daily diet of these women. They buy tinned things of every description, cheap meat, foreign meat, bought in very doubtful markets, and in a condition which just escapes condemnation. They eat everything stimulating in the way of pickles and sauces, and their diet is in all ways unsuited for every-day work and healthy life. Again, the very bad bread which is the staple food of the poor seems to me to result in the noticeably bad teeth with which nearly all women come to us. Of this you will be able to judge better than I. Their teeth are among the first things which we endeavour to attend to. With two exceptions I do not think I have had any women who came with good sets of teeth in their heads belonging to the lower classes—that is, among those who had given way to alcoholism for any number of years.

The habit of taking highly-seasoned and unwholesome food extends to the children to a marked degree. For some time I had the children of the poorest classes during the summer, and I have known many refuse the ordinary food and cry for pickles or for kippers or for anything which was highly seasoned, because they were not accustomed to the food which is usually given to children. They had been reared on unwholesome food from early infancy. The way we deal with them is to build up the opposites, to give them all we see is wanting in the woman.

We try to build up the ideal of home, and I think it is rather different in this reformatory from most inebriate homes that I know of; that we try to avoid every single thing which is in the character of old associations which suggest to the mind the

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institution. We know that in an institution the very methods of life, the very labour-saving methods which are used, do not savour of home. Even the way the bread is cut by machinery does not remind them of home. My idea was to so create homes that they should be models. That is why we have cottage homes where groups of women can live the normal life, surrounded by simple things which every self-respecting artisan should possess in his own home. It is for this reason that many women who have left us have gone away with a picture of what their homes should be. I have dozens of letters which show that these women after leaving us have tried to imitate what they have seen, because it was so simple and so easily grasped. (Applause.) When a woman first comes to us she is taken to hospital, where every detail about her is registered. Next, she is given a large dose of calomel, and that I believe is very beneficial. Our medical man is extremely insistent about the benefits of this initiatory treatment, and believes it to be one of the best preventatives of any dire consequences from the sudden removal of alcohol. Then we give them simple but very good food. I have always felt that these women needed feeding well, and special care is given in this direction. Many of them have very poor appetites when they first come to us, and their digestion is necessarily much impaired. I think sometimes that failure in reformatories lies in the fact that many do not realise that the women cannot at first eat the food which they will eat with avidity after a few months of abstinence, and I think this is a point that ought to be considered, and some differences should be made for the new-comers.

The question of occupation is, to my mind, very important. It is a point that should be taken into careful consideration in a great many places where human lives have to be reclaimed. I endeavour, as far as possible, to make every woman who comes to the home take up some occupation which she has never engaged in before. I lay great stress on this. It breaks off the continuity with the past. We want to give the women new ideas, and to absorb them in their new occupations. We do not want them to take up anything in a perfunctory way. I am sure many women might be helped if this system were adopted, but, unfortunately, in too many homes the women are put to occupations with which they are already familiar. If they are cooks they are put into the kitchen; if they are

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sempstresses they are put to sew; if they are laundresses they are turned into the laundry. It may be greatly for the convenience of the institution that this classification should be adopted, but it is certainly not a factor in successful treatment.

Then at our Colony we are very frivolous. We pay great attention to trifles such as dress and new hats. In order to rehabilitate the self-respect of women you are obliged to think of these things, for a woman ought to care what appearance she presents, and one of the first symptoms which shows that a woman is getting back something of that self-respect which she has lost is that she begins to care how she looks, how her hat is trimmed, and whether it is becoming.

With regard to the treatment, I should like again to emphasise the great importance of receiving women who first come to us into the hospital, for two reasons. Firstly, because it saves self-respect, it puts the emphasis on the physical and not the moral side of the question. It is far better so; the moral side must come afterwards, and it comes with far greater force then. Secondly, in many cases we find that women who drink, especially among the poorer classes, are suffering from illness for which they should have been treated, but which has been neglected, suffering perhaps a martyrdom of pain which they have never disclosed, and from which they have never had any alleviation, and it is, perhaps, to dull this pain that a woman has begun to drink. In many cases we find that neglect after confinement or uterine disorders of all sorts have been at the bottom of their failure. With regard to cases of mental deficiency I think there should be stringent classification. I have had women sent to me who came decidedly under this heading, and who at no time will be able to guard themselves where they are surrounded by temptation. These women remain a constant menace to society, and I feel that there should be colonies in England where such can be received, people who are neither idiots nor insane, and yet who are unable to take proper care of themselves, but who could maintain themselves by useful labour if they were protected. A number of women who come to us would gladly spend the rest of their lives in our midst, but for the present that is impossible. I am now refusing four to five hundred cases a year. In early days I refused three thousand applications in one year. So

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that here is sufficient proof that the work is needed, and could be usefully extended.

With the wider knowledge that is coming to the public in general as to the disease of alcoholism, there is one danger which I think should be safeguarded, and that is the great amount of harmful nonsense that is talked and written as to hereditary predisposition to drunkenness. Many women come to us saying, "I cannot possibly be cured. My father and mother drank, and it is hereditary; therefore it is no use my trying." And the word "heredity" has become a sort of catch-word among many who do not understand these problems.

With regard to many drugs which are now advertised, and which are generally proprietary medicines, I think some of these advertisements have misled a great many people, those who are at their wits' end to know how to help their relations or their friends. (Hear, hear.) They have put their faith in the rash statements that are made, and have been direfully disappointed. There is one specific which has been advertised in some of our daily papers, and which has received a great deal of attention, which professes to have cured a vast number of people, and for all I know may have done so, but I must state that we have very few cases in the colony who have not tried it at some time or other. There are undoubtedly remedies which are of use, and it is a thousand pities that some of these useful formulæ should still remain proprietary secrets.

There is one feature in our homes in Surrey which, I think, is unique, and that is that added to the colony we have a large children's home, of children who have nothing individually to do with the women under treatment, but who are there because I believe it to be bad for people to be in any locality where everyone is treated for the same thing, for into every place I think you must bring some natural happiness and joy if you are going really to bring people out of their unfavourable circumstances, and to my mind the presence of children is one of the best factors of success. It is of very great value that the women should realise that all are not there because they have done something wrong, but that the children are there to be happy and can spend a happy childhood in their midst. The very spirit that this engenders does so much more than we who have charge of them can do towards their recovery, because the children's trust and affection are so simple, and

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give the patient the definite impression that by-and-bye they will be able to regain what they have lost in their own children in their own homes. I look upon this intermixture of work for reclamation and for education as of great value.

I cannot emphasise too strongly the great need there is for training the workers who undertake reformatory work. At this moment there is nothing, it appears to me, that could be so useful as the starting of some place or institution where women who have a desire to take up this or kindred work could be properly trained—trained in the very many branches in which knowledge is required in order to do successful work.

A truer understanding of psychology would lead to the adoption of common-sense methods, which are often altogether overlooked, methods which are valuable in dealing with all delinquent and defective classes, not necessarily only inebriates. I feel sure that such sound training is much needed in reformatory work. I am convinced, from some long experience in getting women to take the post of nurses or sisters in our cottages, that many think such work is the last resort of those who have to earn their bread, who have perhaps not the health or the capacity for other things. It is the greatest mistake to imagine that such work can be undertaken without training, and I feel that herein lies much of the failure of our reformatory system. Women will go to the most responsible work with no special training at all, and the result of this is always evident. I have found great success in training some who have themselves been patients, who have been out in the world since their treatment, and come back to the Colony having proved their stability, anxious and often eager to do for others what has been done for them. I have sisters who, six, eight, or even twelve years ago, have been patients, and they often make the most efficient and sympathetic workers. The spirit of the worker means the success of the institution. The motive with which they work is plainly reflected on those under their care, and it is of the very first and highest importance that the workers should have a real and earnest desire to reclaim and reinstate their patients, and that a strong *esprit de corps* and a high ideal should be preserved.

I am greatly of opinion that no success is possible unless a strong religious influence be maintained. The patients should feel that they have cast anchor in a sure haven, and that it is

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one to which they can in time of stress or strain return. I am not always disturbed when a woman breaks down after her first return home. I have so often known women have a failure when they thought they were strong, return after learning their weakness, and in the end do well. A failure does not always mean a failure for all time. I feel sure that success would often attend these methods were they applied to those who are now considered irreclaimable. They need frequently to feel that they are looked on as individuals and not as cases, and that care and thought are bestowed upon their treatment, and that there is a sincere personal desire for their well-being.

Among the London County Council police cases sent to us in early days was a woman who was as well known to the police as any woman who has ever tramped the streets of this city. She was known as "Mogg the Fireman," because she ran up a fire-escape and eluded the police. She was sent to us as practically irreclaimable, and was afterwards removed to the Aylesbury Reformatory. During the whole time she was there she had one idea, and that was to behave well enough to justify her being sent back to us. After three years or more in Aylesbury she did come back to us, and that is some time ago. She is now on our under staff, and is as valuable a woman as we have on the place. That is why I have ventured to come before you to-day and speak what is in my mind. (Cheers.)

Discussion,

At the Annual Meeting held in London, July, 1908.

The President said the address to which the meeting had just listened was not only eloquent, but was full of practical wisdom and human sympathy. He trusted that those in the meeting who had had experience of inebriety would discuss the address. Inebriety was so closely germane to the subject to which members of that Association devoted their lives that the Association as a whole was deeply interested in it—as much interested in that as in any subject which could be brought before it.

Dr. Stewart said he ventured as one who had had considerable experience with inebriates to say a few words on the subject of Lady Henry Somerset's valuable address. The question was complicated because one had invariably to think of the case which came before one, not merely as a patient who was physically injured, but who was morally injured also. He had great sympathy for the feelings which actuated the mind of Lady Henry Somerset, that nothing could be done for the inebriate woman unless her finer sentiments could be aroused in some way. His own experience was somewhat different from that of Lady Henry Somerset, inasmuch as his dealings were entirely with women of the upper class, and it was very painful to observe during those years that, with one exception, none of these ladies showed any interest in whether she was turned out neatly or not. Very many of his cases, however, had perverted tastes, especially in such matters as dress. It had been very gratifying to hear from Lady Henry Somerset that the disease of

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inebriety was one in which no miracles could be wrought by means of any drug which could be brought to bear on the case.

Dr. CLOUSTON said all were deeply obliged to Lady Henry Somerset for her vivid but simple address. She had laid down that afternoon most admirable rules for dealing with the patients under her care. He thought self-control was what was required to be developed in the cure of the dipsomaniac, and without that the case could not be cured. He thought Lady Henry Somerset would admit that her sex was more difficult to cure than the male, and if that was true, the reason was that their self-control could not be reinstated. There were fifty questions on the subject which arose in his mind, but he would not stand in the way of other speakers. From the point of view of insanity a good deal could be said about drinking. Probably Lady Henry Somerset had had the experience that many of her people were, not only imbecile, but that some, like Jane Cakebread, were on the verge of insanity; that they had that restless morbid condition of brain which existed at the beginning of an attack of mania. Self-control was lost. It was not that there was a desire for drinking, but it was loss of self-control which made a woman take to drink at a time when she was beginning to go off her head. He would like to think that the marvellous system which Lady Henry Somerset had so graphically described had a corresponding result, and that she would have the reward for the great and sympathetic work she was doing. But in common honesty he must say that the experience of most of them was such that they had ceased to believe in the cure of most women who had taken to excessive drinking. The conclusion was a sad one, but it was one which had been forced on his mind by a somewhat extensive experience. He could not sufficiently express the gratitude felt by all towards Lady Henry Somerset for the address she had just given.

Dr. YELLOWLEES said he desired to express a like appreciation of the admirable address to which the meeting had listened. They were all the better for being reminded of the multitude of little things which were of great significance in dealing with such cases. He was not surprised, but gratified, to learn that so many of those women, who had been found by Lady Henry Somerset to be really defective from the beginning, who had not the self-control of ordinary people nor the power of defending themselves against evil and temptation, were the most ready to dwell in her safe home when they reached it. It seemed as if the evil doings of those women had not been their set purpose, but the result of inherited weakness, which they had been able neither to understand nor resist. That was only another reason why a "Feeble-minded Commission" should have sat long ago, and why one could look hopefully for the result of their labours.

Dr. ROBERT JONES desired to add a word of thanks for the extremely eloquent, practical, and kind address which had been heard from Lady Henry Somerset. He had the subsequent treatment of the poor Jane Cakebread who had been mentioned, and in connection with the hopefulness of the treatment he might mention that she hated brandy, even the smell of it. She was at Claybury two years, and in the last stages of pneumonia it was difficult to get her to take it at all; she had, during the time she was under treatment, learned to dislike it. He thought the whole treatment of inebriety was hopeful. Those present knew what a long and difficult process it was, but it seemed to afford a good deal of encouragement, and consisted in re-education and the development of the will-power.

Dr. MILSOM RHODES said that, as past president of the Inebriate Home for Lancashire, he concluded that a large number of inebriates were mental defectives, and Dr. Branthwaite, in a paper which he read not long ago, said that from 60 to 70 *per cent.* were mental defectives. And if those cases were carefully inquired into it would be found that, as Lady Henry Somerset had said, it was the environment of those people, in very many cases, which led them to drink. They lived in horrible surroundings—slums, with their unhealthy atmosphere. That caused depression, and they drank because they were not properly housed. The monotony of the life of some of those people was fearful, and it was true that many of the women were not out of their homes from one year's end to another, and the only place which gave them light and cheer was the public-house. He did not think town councils ever spent money better than when they spent it to provide bands and concerts for the enjoyment of the poor people, so as to break the monotony of

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their lives. It should be the aim to give the people something higher and better than they had ever had before. By providing a higher standard of living one would be able to strike at the root of the drink evil.

Dr. HAYES NEWINGTON said the address was the address not only of an earnest woman, but of a highly scientific woman. The Association would have gathered much good from hearing the subject treated, as it should be treated, by the scientist. He desired to mention only one point, that of heredity, which Lady Henry Somerset very properly discounted as between drink and drink. But he would like to ask if, in her inquiries, Lady Henry Somerset had not found a large amount of heredity in the direction of insanity in the parents of those who were inebriates. He thought that could not be discounted. Those who cared for the mental state of the world must continue to sound that trumpet :, that one of the risks of insanity is a tendency towards drunkenness in the children. It was an old-debated point, but he did not think it had ever been contradicted that insanity tended to drunkenness.

Dr. BEDFORD PIERCE said what had struck him most about the address was its extremely encouraging note. Those who were much in contact with inebriates became very much discouraged, and to hear what Lady Henry Somerset had to say after living among female inebriates had done them all a great deal of good. With regard to the essential nature of the malady, no doubt a great proportion of inebriates were feeble-minded, but he thought that statement rather begged the question. They were feeble-minded or they would not do such foolish things as to continue to drink and ruin their families. But some of the people he was thinking of were not feeble-minded in any way which could be revealed by ordinary methods. There must be something wrong with them, otherwise they would not neglect their future in the way they did. What struck him about the relapsing cases was the very small amount of craving there was—people who were sensible and cultured, who knew the future, and yet relapsed for no apparent reason. He remembered a fellow student who was reclaimed after great labour and sacrifice, but who took to his morphia again simply because he thought he would like to. There seemed to be no other explanation. He was labouring under no pressure from a craving for it. The President might say there was a desire, but in that case there was none of the desire which meant impulsion. With regard to the drug treatment of inebriety, a gentleman called on him and asked him to use a secret remedy in his practice, freely mentioning Lady Henry Somerset's name in connection with it. Of course he felt obliged to decline to have anything to do with a secret remedy. He had been very glad to hear Lady Henry Somerset disclaim any belief in the efficacy of this or other secret remedies. He felt that they were very much indebted to Lady Henry Somerset for her splendid address.

Dr. RAYNER said he would like to express his general agreement with nearly every point which Lady Henry Somerset had advanced, especially as to the very large basis of intemperance furnished by defective teeth. He regarded it as an extensive cause of many failures in life, especially in the matter of intemperance. He had also been glad to hear her ladyship's allusion to the large number of cases in which there had been unrecognised physical suffering, leading to the development of the drug habit.

LADY HENRY SOMERSET, in replying, stated that at Duxhurst nobody was considered as cured who had not stood satisfactorily for a period of two years after leaving the home, nor any who could not be traced or heard of at the moment of making the reports. Lady Henry Somerset was aware that statistics were often misleading, but taking the ground just mentioned, during the eight or nine years they could go back, 57 to 60 *per cent.* of the cases remained free from recurrence at the present time. (Applause.) With regard to the feeble-minded, in the limited conditions from which she spoke, she believed that not more than 3 or 4 *per cent.* came exactly under that head in her view, *i. e.* those who ought not to go out into the world without protective care. Certainly many people might be classed as being weak, but those coming under her care who might be regarded as a menace to society did not number many. There were some who had epileptic fits and were unable to battle with the world. With regard to remedies, the statement which she had made was perfectly true, that for twenty years—ever since Keeley's Gold Cure—she had looked into all the remedies which had been brought

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out and their results. When Keeley made a boom in America she went to Chicago and stayed there six months. Then she went to Dwight, and concluded that she would have nothing to do with the remedy. When she was in America four years ago a well-known leading medical man asked to see her and spoke about a remedy of which he could not get the formula. He said he considered it so much the safest thing he had seen that he would be glad if she would do her best to look into it and make what trial she could of it. She used no secret remedy in her home, but she had a year or two ago a small nursing home in the East End of London for people who drifted in, and she allowed that gentleman to come and make trials and demonstrations before her with the remedy. She saw what he meant by "cure," but she did not think it was in any way a permanent cure for women. Time, and time only, was needed for women, and necessarily so because they recognised that the state in which women often were, made it impossible that they could get well from such a long-standing illness as inebriety in a short time; but she had seen men put on their feet and carried safely across this bridge which was made for them between inebriety and sobriety, so that when landed into sobriety they were able to appreciate what it meant to get over their failing, and they had remained sober because they had been restored by a drug to sobriety, which enabled them to start afresh. That, she thought, was the value of many advertised "cures," that they enabled people to get sober with less of the painful struggle which was involved by sudden deprivation of alcohol, and men often said when once they were sober, "I mean to remain so." With regard to the fact that her name had been used, she did all she could to procure the formula of the remedy in question, because it seemed different from many of the other remedies which existed, but she had not yet been able to get a satisfactory formula. At the same time, she had seen just those results produced, namely, that people who were brought in terribly drunk, especially in the case of men, became sober in a shorter time than they would have done otherwise and started life again from a standpoint which it would be difficult otherwise to attain. That was the only connection she had had with proprietary medicines of any kind. With regard to the remarks as to self-indulgence being the main cause of inebriety, she could not say with regard to women in her experience that one could quite generalise in that way. She had known women with very strong self-control become inebriates because they had set themselves certain tasks, and they had the impression that they could perform them more quickly under the influence of alcohol, and in that way had slid into alcoholism from their very tenacity in carrying forward certain work. She had known others slip into inebriety from a disorganised and uncontrolled life. The results could be generalised and analysed, but she did not think the initial stage could be generalised apart from that point of view. (Applause.)

On the Principles of the Treatment of Epilepsy. By ALAN MCDOUGALL, M.D.

SOME day there may be found a medicine to cure epilepsy. After that day the treatment of the disease will be a simple affair. But for the present he who undertakes to treat an epileptic undertakes a very difficult and responsible task. He must take a broad view of the situation, and use remedies not mentioned in the *British Pharmacopœia.*

In a recent case of epilepsy where the fits have been few it is right to make a vigorous attempt to cure the disease. It is

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justifiable at this stage to subject the patient to many restrictions, to make him an invalid, in the hope that thereby he may come to have no more fits.

But if in spite of this the fits persist, then treatment on those lines must be abandoned, once and for all, and treatment on quite other lines substituted. Without ceasing to hope for cure, it is then wisest to assume that the patient will for the rest of his life periodically have fits. The chief problem in these cases is how to diminish, not the frequency, but the importance of the fits.

Whether epilepsy be one or several diseases, it is certain that there are epileptics and epileptics. To many, perhaps to most, it would be a gain to be free from fits; to others the fit is a boon, the lesser of two evils. An epileptic may have a hundred fits a month, month after month, and be in good mental and bodily health; he may then cease to have fits, and become imbecile or dangerous. Epilepsy is much more than fits; therefore it is a pity, a great pity, that the fit offers such scope to the word-painter. The conventional text-book article on epilepsy is a magnificent, pre-Raphaelite word-picture of a major convulsion, and a little comic relief. Because of this, the student, and subsequently the practitioner, is apt to take far too narrow a view of the situation. Except at the very beginning of a case, treatment that is simply an attempt to rid the patient of his fits is pernicious and wicked.

We must treat, not fits, but a man who has fits. Our object must be to enable him to lead as excellent a life as possible. Now, the human being has two cravings—the craving to be comfortable, and the craving to be useful. Elsewhere I have called the desire to be important egoism, and the desire for comfort egotism. So defining the two words, we may say that with very few exceptions all human beings are both egoists and egotists. Comfort and importance are rarely possible at the same moment; life is a compromise between the two desires. Some people are on the whole more egoist than egotist, others are on the whole more egotist than egoist; but very nearly all are both. And that is the key to the management of the epileptic.

It is not enough to physic his fits, it is not enough to give him a comfortable home; you must also provide a safe outlet for his egoism. In so far as he is biological he is a creature

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evolved, or designed, to enjoy being useful to his community. If you prevent that, the physiological will become pathological, his very proper desire to be useful, his natural self-esteem, will decompose into side, assertiveness, pride, vain-glory, and hypocrisy, envy, hatred, malice, and all uncharitableness.

It is easy enough to point out the principle that underlies the successful management of the epileptic: the difficulty lies in the application. Is it possible to make an epileptic, unless the disease in his case be very mild, useful in a non-epileptic community? The question is an open one. I am not unbiassed, and my experience is one-sided, but I think the thing to be rarely practicable. By mere reason of his fits, as well as for other reasons, the epileptic is so much unlike his neighbours that he and they cannot be happy together. He is a nuisance to them, they are an annoyance to him. Except in mild cases, where the epileptic can keep situations and do an ordinary day's work, he should, whatever his income or social position, live in a community of epileptics. For there alone can you make him know himself to be both useful and comfortable.

At a colony the patient's fits are regarded as a matter of course and as a matter of secondary importance; the attempt is made to promote his general well-being. In his home he found that he was a peculiar person; at a colony he finds that he is a normal citizen. He comes to understand that he must do his share of the work of the community. There is work for him to do, work that he must recognise as useful work. Work done for work's sake, work done for health's sake, is unsatisfactory; it leaves the egoism aching.

Of course, a colony is no earthly paradise; some of the colonists continue to degenerate mentally. A few become free from fits and return to the world to earn their living there. Most, however, remain epileptic, but improve greatly in behaviour, character and health. Most people who have lived with one epileptic regard him as rather a dreadful person, a great nuisance. We who work with many epileptics, play with them, earn our living by them, have them always with us, we regard epileptics as very likeable persons. Being, as a class, more or less short of sexual feeling they tend to resemble children, and so have some of the charm of the child. Owing to their liability to fall and injure themselves, owing also to their proneness to transient madness, they are, and must be,

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sources of anxiety to those responsible for their safety. But they repay trouble; and so long as they are sane, epileptics are more easy to manage than are normal people. I have one hold, and only one, over my colonists—their fear of being sent away from the colony. It is enough.

Discussion.

At the Annual Meeting in London, July, 1908.

The President remarked that the true title of the paper would seem to be "The Treatment of Epileptics."

Dr. Savage said he thought the present was rather a good opportunity to bring before the Association what, he thought, had scarcely been considered hitherto—the existence of an epileptic school colony in the south of England which was doing really excellent work. It carried out in many respects what Dr. McDougall had so well described. When he had been down to that colony on several occasions he had been struck with the simple, commonsense way in which the fits were treated. Those who had not lived in the atmosphere of an epileptic colony were alarmed and disturbed somewhat when they heard a slight cry and saw a patient fall down unconscious. But on several occasions when he was at the colony, in the middle of a lesson, such as geography, there was a slight cry, the child fell, and the nearest child, without hesitation, stooped down and undid the necktie and the sleeves, and the child remained while the lesson was continued; no more notice was taken of the incident by the children than if the child had sneezed. And the children recovered from their fits with little consciousness that they had done anything in any way peculiar. There could be no doubt that that colony system had enormous advantages, not only for the patient himself, but also for those who were not patients—for the other children belonging to the family. He desired to say a word or two about that self-supporting colony. It was one at which only educable children were received—a certain number of boys and a certain number of girls. And the school had slowly evolved. Somebody had presented it with the building, another with the laundry, and so on, and the cost of maintenance of the children ranged from 12*s.* 6*d.* to 15*s.* per week. They were received from all parts of England from different unions and infirmaries. A year or two ago he volunteered to be their honorary physician, so that all children, before going to that colony, were seen by him that he might decide as to their educability. One recognised that, after all, in dealing with the epileptic one was dealing with those who, even at their best, were handicapped. The same thing must be recognised in educating them, for when they arrived at the age of sixteen or seventeen and had to be removed, some to farm work—and some were retained in farming in Sussex—they were not fully capable of earning their living independently. That was one of the drawbacks. People asked what was the use of working at such children and calling them educable when really at the end of their education they were only half-human beings? His reply was that it seemed very much better to have a half-useful individual than to have an actual encumbrance on the State; and he thought the colony system was the only satisfactory one, whether for the education of such children or for their treatment.

Dr. Milsom Rhodes, J.P., reminded members that on the previous day they differed as to the merits of the colony system in the treatment of the insane. Anyone who had had large experience of the colony system could only arrive at one opinion, namely, that it was the only really efficient system for dealing with the epileptic. He had had much experience of it; and he found that one of the great difficulties of dealing with epileptics outside was the sense of inferiority which they had constantly before them in relation to their fellow men. But when they entered a colony that feeling largely disappeared, for they felt equal to their associates, so that their self-respect was restored—an important matter. Thanks to sanitation, and perhaps still more to getting a large number of insane persons into our asylums, epilepsy was now diminishing steadily, and he attributed that to the pro-

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vision for cases in asylums. A short time ago a woman brought her father-in-law to the institution with which he, Dr. Rhodes, was connected, and he told her he appeared to be perfectly quiet, and asked her whether she could not keep him at home. She replied that she had got her husband and child who were epileptic, and that she could do with two epileptics, but not three. He held a strong opinion that these people should not be allowed to marry and propagate the unfit. The State should take up the question of providing epileptic colonies for the whole class. At the present time the country was following a wasteful course. During the last month or two he had been carefully into the question of the number of epileptics in prison, and the number of feeble-minded persons in prison, and he had been horrified by the number of epileptics at present in our prisons. A large number of those men had committed their crime while in a state of epilepsy; and when the report of the Prison Commission was published, the facts would stagger the public. Dr. Donkin had said that 15 to 20 *per cent.* of prisoners were feeble-minded or epileptic, and if that was so it was high time the system was changed, and that proper places were provided for those people where they could be kept from committing crime. He thought many such people fell into crime because they could not find occupation. Electricity had been a cause of great distress to the epileptic. Sewing-machines which formerly were driven by the worker, and therefore did not come under the Factory Act, were now being driven by power from a central source, and hence came under that Act, and no epileptic could find employment under the Factory Act. Consequently many of those poor creatures could not find employment, and often drifted into crime. He hoped members of the Association would do all they could to spread and multiply such colonies, and provide occupation on the land for these people, for he believed Dr. McDougall would agree that occupation on the land was the best means of diminishing the fits. By so doing they would not only be following a humanitarian course, but one which would be of great benefit to the public at large.

Dr. Rayner said he thought the advantage arising from the association of epileptics together could not be too largely dwelt upon. His experience at Hanwell at first was that of having insane epileptics scattered through the general insane population. He then segregated the epileptics in one large ward. One of his colleagues told him he would have plenty of homicides, and tried to frighten him out of the project. However, he segregated them, and it gave him more relief in the asylum than it was possible to imagine. And the sympathy of the epileptics for one another was a very great element in the success of the segregation. Of course, that had been adopted now everywhere, and it was an old story; still, recollection of the period before the segregation was, he thought, worth mentioning. After the segregation many of the epileptics under the favourable conditions which were inaugurated went on improving; and his impression was that in a very large number of cases the fits tended to become less frequent and in some they disappeared altogether.

Dr. Shuttleworth said he would like to say a word about the educational aspect of the question. He did not think it had been mentioned, but no doubt it was generally known that the Act of 1899, which dealt with the education of feeble-minded children as "mentally defective," gave power also to educational authorities to provide for the education of children who were prevented from attending ordinary school classes by reason of severe epilepsy. That Act was optional, and he feared it had not yet been adopted by the major portion of the school authorities of the country, though it had been adopted in all the larger cities and more intelligent centres of education. But he thought its universal adoption would be a very great social benefit—he meant especially its adoption in the case of epileptics. Because if, as Dr. Milsom Rhodes pointed out, the want of care of epileptics produced a large number of criminals and caused all sorts of evils in the community, not to mention the question of the reproduction of epileptics if epileptics were allowed to marry at their own sweet will, the great thing was to "detect early and protect always." He thought those were the principles which they should go upon with regard to the treatment of epileptics. The Act of 1899, wherever adopted, had given considerable facilities for that purpose. When some years ago he, Dr. Shuttleworth, was doing work under the auspices of the late London School Board, he had to examine and report on all epileptics known to the attendance officer. There were 470 brought for his inspection, and his report

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was that at least 40 *per cent.* required special treatment, not at day classes, because that was only a small benefit, but in wholesome surroundings in a proper residential school where they should have a fair proportion of outdoor work as well as some indoor schooling. That report he feared had not been acted upon fully, though he believed that the authorities which now regulated educational matters in the Metropolis had taken advantage to some extent of the institution at Lingfield to which Dr. Savage alluded. Having visited that institution he could confirm Dr. Savage's remarks about the good results from the judicious treatment of the children received there. He had also had the pleasure of visiting the Cheshire institution about which Dr. McDougall had just been speaking; and that institution was admirable in its arrangements, and he had no doubt it was of immense benefit to the north of England.

Dr. YELLOWLEES said that the first principle in the treatment of epilepsy was the removal of that which induced the fit. He had found that among epileptics the sexual instinct was often very strong, and he mentioned the case of a sane epileptic who was so confident that his fits were caused by strong sexual emotion that he resolved to be castrated. Other treatment having failed, the operation was performed and the fits entirely ceased. Is castration not a neglected remedy? he asked.

Dr. ROBERT JONES remarked that Dr. Savage had referred to the economical value there was in colonising epileptics. This was an age of classification, and the Legislature had not been slow in taking advantage of classification. As Dr. Shuttleworth had said, there had been an Epileptic and Defectives Act, and, apart from colonising the epileptic, he would like to hear from Dr. Bond his experience with regard to colonising the insane epileptic. There was only a very narrow line of demarcation between the sane and the insane epileptic. He had had experience of the young so-called educable epileptics at Earlswood Asylum. In one year the admissions of educable epileptics were 25 *per cent.* of the whole. And there was an experience of those children attending classes and getting worse. He did not think that in his experience they discharged back to their parents any epileptic at Earlswood, which was the case with some of the educable improving ones. His experience—and it was within the knowledge of everyone—was that colonising epileptics in the County of London was not so advantageous from the ratepayers' point of view. The maintenance-rate at a colony was not so satisfactory as that for treatment in an asylum. But Dr. Bond, with experience at both, could tell the meeting whether in the colony there was more contentment. He, Dr. Jones, thought the epileptic specially required encouragement with regard to the religious side. No school would commend itself to him unless there was some local chaplain to minister in that special line. And although he advised that it would be most desirable to have a special chapel at the Epileptic Colony at Ewell, there was not yet a chapel of any kind there. For religious purposes the epileptics had the use of the dining hall. He asked whether any foreshadowing could be given as to the extent to which that economic necessity existed. What was the percentage of epileptics to the ordinary population? He had heard that in prisons there were as many as 25 *per cent.*, from Dr. Rhodes.

Dr. MILSOM RHODES: Weak-minded criminals; that is according to Dr. Donkin. Branthwaite in Inebriate Homes bears that out. In epilepsy it is 2 per 1,000 of the population.

Dr. ROBERT JONES, continuing, said that left 12,000 epileptics in the county of London alone, and one sees how vast is the possible expenditure, but he thought that it was worth the expense. The second part of his remarks would be limited to the question of prevention. He looked forward with interest to what the sealed books of the "Feeble-minded Commission" would show as to colonies. From the evidence in the *Times*, he thought there would be a strong recommendation to concentrate—"to detect early and protect always," as Dr. Shuttleworth so well said. The protection of the masses of the population against the epileptic was a very necessary one. His own experience in the matter—a somewhat extensive one—was a sad one with regard to the strong sexual feeling shown by the epileptic. A large number of the patients the subject of epilepsy, at Claybury, were women of about 18—some as young as 16; many were married and had had children. One of the cases discharged at the last meeting was a man who had married a girl who was one of thirteen children, all of whom were epileptics. The cause

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of his insanity and his admission to Claybury was the suicide of his eldest daughter, his wife having already been an inmate there. His object in making those remarks was to encourage the colonisation of the epileptic, even though the plan might be expensive to carry out. Not long ago he was asked to foreshadow some suggestion as to the prevention of insanity, from another aspect, and he thought the present question bore a very close relation to the subject of the protection of population against insanity, and its limitation by preventing unsuitable marriages.

Dr. CLOUSTON said he would be glad if Dr. McDougall would, in his reply, give some information on two points. Firstly, were the epileptic patients in the colony with which he was connected regularly getting bromide of potassium as a medicine against epileptic seizures? Secondly, was there a standing rule that after each fit the patient should be allowed to sleep it out—to lie and rest as long as possible, until the immediate effect, both on the circulation and on the brain cells, had passed off? He thought everyone would be glad to hear those questions answered. He had been surprised to hear from Dr. Rayner that he segregated his epileptics. In the Scottish asylums there were comparatively few epileptics, but they were most carefully scattered about among the other patients. The good, pleasant, industrious epileptics were placed in the open convalescent wards, where they proved very useful. The only rule they had was, that in walking round the grounds those patients must not walk alone. They must either walk with another epileptic, or with some patient who would look after them if they had a fit. With regard to the special sexuality of epileptics, he did not believe there was any difference between them and other people: they did not seem to possess less or more of the reproductive instinct than anybody else, having regard to the particular age of the individual. He desired to personally thank Dr. McDougall for his paper, because he, Dr. Clouston, had now derived from his description a different idea of the sort of place which the epileptic colony was compared with what he had previously entertained.

Dr. BRISCOE desired to support what Dr. Clouston had said with regard to the physical side of epilepsy. He asked the reader of the paper whether any observations had been made in the matter of dietetics in connection with such patients and their management. It was very important that the general practitioner of the present day should know how to manage epileptics. Many in general practice, and others, looked to the Medico-Psychological Association for their knowledge in regard to mental cases. The *Journal of Mental Science* was read not only by the members but by many general practitioners, and he would be very glad if the author would give some information bearing on the physical treatment of such cases, especially as he said he treated, not the fits, but the man who had the fits.

Dr. HUBERT BOND said he only rose to take part in the discussion because Dr. Jones had associated his name with it, and had asked him some questions. Unfortunately he was not present while the paper was being read. Dr. Jones asked what his feeling was about the Ewell colony. His feeling was one of optimism concerning its past and its future. His personal anxieties were great at first, because a large proportion of the patients transferred there at the opening of the colony had been under certificate many years, and had been detained in asylums under the usual restrictions (locked doors, etc.), whereas on arrival at the colony they suddenly found themselves in villas whose doors were left unlocked till sunset and whose gardens were without enclosure of any kind; in truth the colony's estate was enclosed by no more than ordinary country hedges, and its main gate, except at night, may always be found wide open. As to its financial aspect—a very important one from the ratepayers' point of view—he felt sure Dr. Jones would be glad to hear him say he thought he was wrong. It was a difficult point to state clearly without being verbose, but it must be understood that it did not follow that because a particular class of patients had a higher maintenance-rate than the rate of an ordinary asylum embracing all classes, that those patients were really costing the ratepayers more than they would had they been kept in the ordinary asylum. It would be tedious, but it would be quite possible, to dissect out from any given asylum the different costs of maintenance for its different classes of patients. It would then be found that the epileptics were one of the most costly classes to maintain, because of the necessarily constant supervision both by night as well as by day. Male patients were considerably more costly to keep than females. Now,

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at the colony all the patients were epileptics and required constant supervision by night; and further, the sexes were in the proportion of four males to one female, while in the ordinary asylums there were rather more females than males. He could multiply those examples, but they would suffice to show what he meant. In other words, if the colony's maintenance-rate were ever the same as that of the other asylums, it would mean that, owing to its special features, its patients were being maintained more cheaply than if they were housed in the ordinary asylum. There were, indeed, encouraging indications that its rate might ultimately approximate that. Great reductions in it were made while he was there, and under his successor, Dr. Spark, he knew that very substantial further reductions had taken place. There was no doubt that the number of patients at the colony could with advantage be increased, not indefinitely to an advantage, but still considerably. He did not know how many suitable patients there were now in the other London asylums, but if ever, by a change in the law, the colony could receive voluntary boarders, he felt sure the demand on its accommodation would be very great. There was no doubt as to the contentment of the colonists. He did not know that at a colony they seriously missed a chapel. Epileptics were certainly very religious and they attended the services with avidity; their religious needs were well catered for by ministers of three denominations. The question of prevention in his opinion was very much more important than the treatment, concerning which as regards curative effects he was, in conjunction with others, somewhat pessimistic. But if curative effects were aimed at surely the whole matter hinged on how early the case was secured, and most of the cases were unfortunately obtained too late to permit of a hope of cure. From the preventive aspect better results may be hoped for now that medical inspection of all school-children was coming about. But he would like to go a step further and to urge that the medical inspection should be done by somebody who had had a training in medical psychology. The question of diet had also been mentioned, and it surely was extremely important. He, when at the colony, had tried the effect of a dietary as purin-free as possible, and apparently with some beneficial results, but such observations ought to be continued for a lengthy period before drawing conclusions.

Dr. Eden Paul expressed himself as having been particularly interested in what Dr. Yellowlees had said about the connection between epilepsy and sexual activity. The same appeared to apply to women. It was the familiar experience in women whose fits were not usually frequent, perhaps not more than five or six a month, that fits became frequent at the date of the sexual period. That seemed to establish a relationship between the sexual activity and the occurrence of the fits. He did not think an investigation on the matter had yet been made, but when fifteen or twenty years ago the operation of oöphorectomy was so frequently done, when, indeed, it seemed to be a fashionable operation, it must have been done in a considerable number of female epileptics; and he thought it might be possible to investigate those cases and find out whether it had any effect in causing cessation of the fits. His view was that there was some connection between sexual activity and the occurrence of the fits.

Dr. Orr said he was particularly interested in the paper, because if the subject of epilepsy and its treatment was to be studied, the question was, What conditions were the most suitable? There were epileptics who were said not to be insane. He asked whether Dr. McDougall had tried Ceni's treatment, which consisted in administering to them their own serum or the serum of other epileptics. Ceni's essay was so good that it gained the prize of the Craig Colony in America. He, Dr. Orr, was particularly struck with Ceni's results, and he would be very glad to know whether they had been either confirmed or found wanting. Had Dr. McDougall seen anything at his institution which would indicate whether Ceni's treatment was worth a trial or not?

The President said the time had arrived for bringing the discussion to a close. It had touched on many points, and epilepsy was a subject which had not often come before the Association, though it was a very important one, and it might be well to discuss it more. The association of epilepsy with activity of the sexual function he regarded as undoubted, but it was seldom so conspicuous as in the case which Dr. Yellowlees narrated. Less conspicuous instances one saw from time to time. He had now under care an epileptic lady whose fits occurred at irregular intervals, but always coincided with the practice of self-abuse. And, having been

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induced to give up that practice, the fits had now ceased entirely. A very important matter was the effect of the Workmen's Compensation Act upon epileptics. There were very few measures which were unmitigatedly good or unmitigatedly bad, and the Workmen's Compensation Act had borne extremely hard upon epileptics. They could not now get any occupation at all, and no insurance company would accept them. A very painful case came before him recently in the person of a young journalist, who at intervals of nine months or a year had an epileptic fit. As soon as the Workmen's Compensation Act was passed his remuneration did not rise to the maximum provided by the Act, and he was discharged from his employment and had not been able to get any since. He was surprised that those who had a large number of epileptics under their control had not made more crucial experiments on the diet. To change the diet of the whole institution at once did not seem best calculated to give the best results. If he were at the institution he would change the diet of half the inmates, leaving that of the other half untouched, then turn round and change the diet of the other half, meantime reverting to the usual diet for the first half, and then seeing if any deductions could be drawn. His own view was that diet played a very important part, not only in epilepsy, but in paroxysmal neuroses, and in the treatment of the latter he had had a success which surprised him by alterations in diet. Fortunately, or unfortunately, those dietetic modifications were not reducible to rule; one could not say that one particular element in the diet was deleterious generally, but there was a certain balance, differing for each individual, in the elements of food which were best for that particular person. If such balance was disturbed that person suffered in health in one direction or another, and the problem for the medical man was to discover in each case in what respect the diet was wrong. But it must be always borne in mind that what was the right diet for one person might be wholly wrong for another. In many cases, especially of paroxysmal neuroses, he regarded the diet as the most important element in the treatment.

Dr. McDougall, in reply, said Dr. Yellowlees had referred to a case in which the man was castrated, and ceased to have fits from that time. But he, the author, contended that the same result would have followed any other operation. After any operation on any part of the body the fits might cease, and that fact now seemed to be fairly well established. Trephining was sometimes done for epilepsy, but he believed the same results on the fits would follow an operation on the toe, but the diminution of the fits was good only for the time being. So that operations on the brain furnished no scientific data. He was convinced of the truth of his impression that, as a rule, epileptics had less sex feeling than had other people. He did not say that without deliberation. He believed that was the reason epileptics were such children; they could be easily led. It was usual with him to give doses of bromide of potassium, 30 grains, at night, but not in all cases, because in the case of many of the colonists he wanted them to have fits—he did not try to stop them. He would rather that a patient had four fits a day and be docile, than that he should have none and be a murderer. He maintained that as long as our thoughts were concentrated on the major convulsion, there would not be successful treatment of epileptics. The man should be treated, placed under the best possible conditions, and then, being given a good chance, the fits might go away of themselves. There was a school for the children at the colony, and many of them were free from fits, though they might relapse at puberty. When cases were obtained early they did very well at the colony. He did not diet patients particularly. Much meat was not given, but animal food was served twice a day. Whether the children had a fit, or sneezed, they did not create any excitement. At the colony good scientific results were obtained, but so they were at other colonies in England and abroad, and there was no need for his colony to tabulate the results particularly. He would turn out better results with his own patients than were usual, although he might not add much scientific knowledge to the world.

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The Atropine Treatment of Morphinomania and Inebriety. By MARY S. P. STRANGMAN, F.R.C.S.I.

I FEEL highly honoured in being invited to read a paper before you this afternoon on my experience in the treatment of morphia habit by the method published by Dr. McBride in April, 1904.

You will recollect that he laid stress chiefly on the value of this treatment in dealing with dypsomania, but he also mentioned that it had proved of value in morphinomania.

The habitual use of morphia, as you are all aware, has effects on the system, mental, moral, and physical, which cause grave difficulties in treatment, especially in general practice.

The tonic and stimulating effect of the drug is greatly missed on its withdrawal, and the patient will feel miserably low in himself and collapsed.

The fortitude of the patients in bearing pain and mental distress is so greatly reduced as in some cases to render it impossible to treat them successfully in their own homes and family surroundings.

The loss of the hypnotic effect of opium is also greatly missed during treatment, and it becomes a matter of difficulty to procure them sufficient refreshing sleep without resorting to chloral and other drugs which would be dangerous to them.

The effect of opium on the alimentary system is well known, the uncertain and capricious appetite forming a very considerable hindrance to the maintenance of proper nutrition. Also the excessive vomiting and diarrhœa which occur in many cases when the drug is withdrawn tend to weaken the patient considerably.

The unreliability of the statements of a morphia *habitué* in the absence of trained surveillance is another very considerable difficulty in general practice. Osler, in his *Practice of Medicine*, states: "Persons addicted to morphia are inveterate liars and no reliance whatever can be placed on their statements." My own impression has been that their deception is not always intentional. Their imagination, especially when under the influence of the drug, is very active and vivid, and afterwards, like Tennyson's Prince, they find it impossible to distinguish the substance from the shadow.

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My first case was a man, æt. about 60, who had been taking opium for thirty-two or thirty-three years. In the careless confidence of early manhood he frequented an opium smoking club in London. He found the drug to be such a stimulant to his mentality that he used it systematically when he had important business to transact. He took the drug in three forms—by smoking, as a patent pill or hassheesh compound he was introduced to in Paris, which had a rather different effect, and in a draught as laudanum.

After about four years, finding that he had contracted opium habit, he placed himself in a medical man's hands. This gentleman encouraged him to drink wine freely, but what other treatment he employed I could not discover; the result, however, was that he was able to abstain from the drug for about a year, though the desire was never quite absent. He then took to it again, and his history from this time on was one of gradual and steady degradation, till at the time that he came into my hands he was a hopeless wreck, mentally, physically and socially.

His usual daily allowance at this time was about 4 oz. of laudanum taken in two doses; without it he felt intensely irritable, restless and miserable, and found it almost impossible to get sleep—his own statement was that he hardly got an hour's sleep in twenty-four, suffering from hallucinations of sight and sound, imagining that bells were ringing, lights flashing, and people creeping up the stairs into his room and up to his bedside.

His appearance was not typical: he was stout and somewhat corpulent, florid complexion, and his pupils were well contracted, though not to pin-points. His gait was shuffling and uncertain, but not ataxic, intention tremors were present in writing and other fine movements, and his memory frequently failed; sometimes in the middle of a sentence he would completely forget what he was speaking of, also when writing and totting up figures, and at first he could never remember one day what he had done the previous day. When I first saw him he had been for a fortnight without opium—not having the wherewithal to obtain it; he was intensely miserable and depressed, threatening suicide, and said he had had no sleep at all for some days, he was also complaining greatly of vertical headache suggestive of great need of sleep.

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He was a man of very determined will, most anxious to take every advantage of the medical assistance I could give him, and must earlier in life have had a splendid physique and mental powers of a high order, though now a wreck through dissipation and hardship.

I want you clearly to understand that the only factors in the treatment of this case were, the man's own honest will to do better, my own moral influence and encouragement, and the administration of atropine and strychnine hypodermically; what the value of each might be I shall leave to your own judgment.

Up to the time of his decease in November, 1907, he lived in miserable lodgings, scantily clothed and fed, often in physical suffering and need.

I began treatment on April 20th, 1906, with atropine sulphate $\frac{1}{100}$ gr. combined with strychnine $\frac{1}{60}$ gr. thrice daily, increasing as rapidly as I thought advisable, till on the eighth day of treatment he received three doses of atropine $\frac{1}{50}$ gr. and strychnine nitrate $\frac{1}{30}$ gr.

The effects produced by the treatment appeared unmistakable. The hallucinations of sight and sound began to yield on the first night and disappeared on the third. The headache also was completely relieved, and he got some refreshing sleep. On the fifth day he felt a distaste for alcohol, which he had habitually taken to excess, felt a bit hopeful of ultimate recovery, and showed some regard for his appearance and dress; in his disregard of these he had resembled the chronic inebriate. On the fourth day he complained of nausea and vomiting, and the next day of diarrhœa. These disturbances of the alimentary system caused him much suffering as time went on; he often complained of being disturbed eighteen and twenty times in a night, and of the vomiting being so violent as to cause hæmorrhage. I believe him to have been trustworthy in these statements, his weight and girth diminished so rapidly.

On the fourteenth day of treatment he volunteered the information that all wish for opium seemed to have left him, and I never after knew him to have any desire for it. Early in June I began reducing the dosage of atropine, and stopped its administration on June 20th. He was now putting up weight again; his memory, gait, and appearance had improved greatly. He slept on an average four hours each night—he had

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never been a long sleeper—was in good spirits, and showed pride again in dress and appearance.

I kept on giving him strychnine in small doses for some months, but this was mainly as an excuse to see him daily, as I looked on his cure as complete.

In May, 1907, he was so much improved that he was able to get work as an accountant, looked a different man as regards both health and dress, and expressed himself perfectly free from craving for either opium or alcohol.

During the summer his health began to give way seriously, and in November he died from a pulmonary affection. For some months before his decease he suffered greatly from the effects of an old injury without ever desiring opium except as he would any other means of relieving pain; indeed, towards the end when offered him he refused it.

My second case was almost the same age but of very different character. He had devoted all his energies to business; exercising his mental faculties to the utmost, he lived generously and led a sedentary life. All through his life he bore pain and mental trouble badly, being very impatient and of badly-controlled, quickly-fired temper; he was therefore a very bad type of patient.

Two years before coming to me, during an attack of proctitis lasting some months, his medical attendant administered morphia hypodermically. In three months, when his ailment was practically well, he was having 2-grain doses of morphia, and was unable to do without it. Finding in time that his doctor's bill was getting heavier than he cared for, he found means of procuring the drug and syringes and began self-administration. His maximum dosage some time before coming to me was, according to his own statement, 7 gr. in one dose and 37 grains in twenty-four hours. Finding his failing memory and increasing irritability were fast rendering him unfit for business he tried to pull up, and his medical man administered belladonna in mixture which enabled him to reduce his dosage to 12 gr. daily, but he could not get below this. When he came under my care he was taking usually 4 gr. in two syringefuls three times a day—about 2 p.m., 8 p.m., and 6 a.m. You can imagine what his arms were like; I regret that I did not photograph them.

He was more typical in appearance than the first case, in that

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he had become very sallow; he was in no way emaciated, and was somewhat corpulent. His pupils were moderately contracted soon after a dose, but dilated as the effect wore off. He complained of great irritability of temper, fearful dreams or nightmares, failing memory, appetite and strength.

This patient was comfortably housed and fed during treatment, and was devotedly nursed by his wife. Having nothing to do and little means of amusement he became morbidly introspective, in a great measure no doubt owing to his particular temperament.

He was greatly afraid that I would withdraw his dosage of morphia too suddenly. In order to gain his confidence I gave him permission to continue administering it himself, only stipulating that he should use the smallest amount that would give him ease, and that he would let me know at each visit exactly how much he had taken.

I began treating him on July 25th, 1907. As in the other case, sleep became more restful and refreshing, and the terrifying dreams were replaced by pleasant ones on the second or third night. On the third day of treatment three 1 gr. doses of morphia were sufficient to keep him comfortable.

On July 30th (fifth day) he received atropine gr. $\frac{1}{50}$, strychnine gr. $\frac{1}{20}$ three times, and had got down to $\frac{1}{2}$ gr. doses of morphia. He had now no actual desire for morphia, but a sensation as of cords being drawn tightly over his body and heart, which he believed would only be relieved by a dose of morphia. For six days I kept him in bed altogether, but he was now feeling so much better and stronger that on the seventh I allowed him up in another room for awhile. He remained at a standstill now for a few days, but on administering four doses of atropine and strychnine daily he got down to one dose of $\frac{1}{2}$ gr. morphia daily. On August 10th he was well enough to take a short walk, and took no morphia in the twenty-four hours. The next day, however, feeling tired and run down, he took a $\frac{1}{2}$ gr. without its giving him any relief. This was the last dose he gave himself until September 8th, when, in a restless, despondent, nervous mood, he gave himself another $\frac{1}{2}$ gr. dose, but again without doing him any good. He was so imbued with the idea that opium for him was a panacea for all ills that the temptation to fly to it whenever he felt in any way out of sorts was very great indeed. This

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time he felt so very like breaking down that I increased the dosage of atropine to $\frac{1}{30}$ gr. for a few days. This caused about twenty minutes after administration a sensation of giddiness, which lasted about ten minutes. It settled his nerves, but reduced pulse tension more than I liked, and made him feel weak and languid and nervous about himself. On the 14th I began reducing the atropine, and I stopped it on September 23rd. He was now worrying so much about business matters that much against my will I had to let him return home. He assured me before his departure that he felt perfectly cured of the habit, but I doubted his fortitude should he feel tempted. I regret to state that I heard from him later on that he broke down in about a month after his return. From first to last he kept possession of his syringes and supply of morphia, though I tried several times to induce him to hand them over to me; he evidently had little confidence in himself.

Though this case was eventually a failure, I think you will agree with me in thinking that it illustrates well the effect of atropine as an antidote to opium. I cannot help thinking that if he had had the advantages of a special home for such cases and had consented to remain there for a few months till cure was more firmly established he would now be in the list of successes—not failures.

I got into correspondence with half a dozen other cases, all of whom expressed more or less desire to be cured, but for one reason or another they failed to come to me.

Amongst alcoholics I have had three successful cases by the same method and two failures:

No. 1.—Had tried several cures, including hypnotism, which benefited for about a year and a half. This case showed aversion to alcohol in eight days and has remained perfectly well for four years.

No. 2.—An old man, who had become a dypsomaniac after middle age, had been drinking excessively up to the day he came to me and was showing signs of delirium tremens; he got quite delirious after a couple of days, and had to be removed to hospital. In ten days I began again, but in twelve more he began drinking again and was hopeless for two months. He then returned and permitted me to treat him for two months. He has remained perfectly well to date, two and a half years.

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No. 3.—A woman, who had returned to prison forty-five or fifty times for drunkenness and vagrancy, without crime, with a reputation of never being able to pass a public house, was brought to me direct from prison. In a week she was trusted by herself with money to buy some clothes and returned with the change, none the worse. She has been doing well for the past couple of years.

Nos. 4 and 5.—A man and a woman were forced to come to me against their wills. They drank daily in secret while coming to me, neither persevered for a full course, and, as might be expected, both proved complete failures.

This concludes my experience of Dr. McBride's treatment.

Discussion,

At the Irish Divisional Meeting, at Waterford, on July 2nd, 1908.

Dr. Dawson expressed appreciation of the paper. He had himself tried the atropin treatment in ten cases of inebriety; two were still undergoing it, and in three sufficient time had not elapsed since the treatment; but of five which had been treated three years ago or over three remained well. Of the two failures one had done well for some months, but had then met with a severe shock and relapsed, and no subsequent courses of treatment with atropine had had any effect, though the patient had now been well for over two years after a course of "Normyl" treatment. The other failure was in the case of a woman, who had remained well for two or three months after the first course, but later courses had been useless. He thought that suggestion had a good deal to do with the cures—witness the first of the above-mentioned failures—and it should also be borne in mind that strychnine alone had a favourable effect in some cases. He endorsed Dr. Strangman's views as to the necessity for a wish to be cured on the part of the patient.

Dr. Strangman said that suggestion could have played no part in her first case, as she told the patient that it was an experiment. She thought that atropine had an effect apart from strychnine, and she had seen actual aversion to alcohol produced by it.

Dr. Leeper thought it gratifying that the treatment of alcoholism was being taken out of the hands of the quacks, but was of opinion that the results should be received with caution—he had seen a patient "cured" five times. It would require a long series of cases to convince him.

Dr. Eustace had tried the treatment in one case of morphinism, which had remained well for eight months and then relapsed. He had also tried it with several cases of alcoholism, but all had relapsed sooner or later except one, of whom, however, he did not expect much. He looked for better results from preventive legislation.

Dr. James Fitzgerald congratulated Dr. Strangman on her courage and successful results. He had visited one of the "cure" institutions to see a patient, and thought he got all the whiskey he wanted. He considered that the profession should set its face against the connection of medical men with such places.

Dr. West thought harm was done by ill-considered prescribing of morphia hypodermically, and instanced two cases.

Dr. Leeper said that what was really wanted was legislation to enable one to get hold of cases and treat them compulsorily.

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Clinical Notes and Cases.

Acute Furious Mania in Cerebro-spinal Meningitis.

By JAMES P. STURROCK, M.A., M.D.Edin., Assistant Medical Officer, Midlothian and Peebles Asylum.

DURING the recent epidemics of cerebro-spinal meningitis it often occurred to me that the furious mania which frequently ushers in or complicates the disease might lead to a case being sent to an asylum under circumstances similar to those that apply to the mental excitement in cases of enteric. As far as I am aware the following is the first case of the kind reported, and as it possesses interesting features in itself, apart from the main issue, I report it fully.

A. A— was admitted certified as insane, having been in a condition of furious mania for eighteen hours previously.

For four months prior to his admission he had been working as a pit labourer and lived more or less constantly in the model lodging-house of the nearest town. He was generally looked upon by his mates as a little queer. For days he would speak to no one any more than he could help; at times he was very irritable without cause, making unreasonable demands and inroads upon the routine of the house, and, as the proprietor said, "would fight with his own shadow." Three weeks before admission he went to Glasgow, residing in a district which, it has since been ascertained, was the centre of an epidemic of cerebro-spinal fever. He seemed to be more than usually restless and irritable when he returned to stay for a few days. He went back to Glasgow, but returned in two days and came to the lodging-house in the evening very drunk. At 4 a.m. he was reported by some of the men as being in a very excited condition, jumping out of bed, and rushing wildly round the room; it was thought to be delirium tremens. The proprietor found him under the bed close to the wall, stiff, and apparently unconscious, but clinging firmly to the leg of the bed. On being touched he became very violent. His eyes were wide open and fixed and he seemed dazed. He had copious diarrhœa for some time. He had quiet intervals, but ultimately became so very violent, kicking and biting, that he had to be strapped down. Three powerful labourers were employed to sit on his bed throughout the day, and it gave them great trouble to control him. His struggles continued till he fell back exhausted for some time, only to resume as furiously as ever. He seemed to recognise no one and did not answer questions; at times he swore furiously in an excited period, but even this was confused. The proprietor was certain that the patient had no hallucinations of any kind. He was seen in the course of the day by four medical men. The presence of two cases of cerebro-spinal fever in the town suggested to

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one of these the idea of that disease, but there were no symptoms, and the patient became so unmanageable that he was certified and removed here.

On admission he had quietened down into a semi-comatose state. His pupils were widely dilated, but there was neither retraction nor ptosis. The conjunctival reflex seemed diminished. His appearance suggested enteric to me, and before taking him over this idea was further supported by noting the following symptoms, a temperature of 101·2° F., thickly furred tongue, copious watery diarrhœa, very intermittent and slightly dicrotic pulse, and slight enlargement of the spleen. There were no muscular symptoms whatever to suggest cerebro-spinal fever.

In view of these facts I had him isolated. His blood was at once tested for the Widal reaction, but there was no agglutination. There were no spots on his body. During the first day he was confused and restless. At times he was able to talk a little, but his conversation was confused and wandering. It could be gathered that he suffered from pains all over his body and he became very irritable and excited when the nursing necessitated his being moved. There was no resistance on passive flexion of the limbs and this did not appear to increase the pain. His knee-jerks were decreased. His legs were not rigid; he seemed to have marked loss of power in them from the knee downwards. It was noted that in spite of attention to them his legs were markedly colder than any other part of his body and they were apparently very anæsthetic. He refused to lie on his back, and it was gathered from him that he could not move his legs at all unless he lay on one or the other side.

On the afternoon of the second day he had severe epistaxis. The same evening it was renewed, and on the third day he had bleeding at frequent intervals. He passed urine in large quantities frequently, although he did not take much fluid the first few days. From the third till the sixth day he was very constipated.

An examination of his blood gave a leucocyte count of 6700. This favoured the diagnosis of typhoid. Osler says: "In cerebro-spinal fever there is a leucocytosis which may help to diagnose it from typhoid." A second Widal test gave a negative result.

His mental condition was one of confusion without excitement till the fourth day. On that day he became quite clear, and although he remembered nothing since the day before admission, he could go back in his history quite clearly. He stated that at the age of fifteen he had been violently excited during an attack of pneumonia. His bodily pains still continued, but he was less irritable. On the ninth day he complained of stiffness in the back of his neck and lay with his head slightly retracted. Kernig's sign had been repeatedly tested for, but on the eighth day for the first time was there any indication of it, and that very slight. His condition did not vary till the evening of the eleventh day, when he suddenly got out of bed and rushed out into the corridor in a state of slight delirium. That evening his head was very painful. His temperature, which for six days had been continuous, was now markedly oscillatory. On the morning of the twelfth day the neck rigidity suddenly increased, and in two hours he showed marked

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opisthotonos. A lumbar puncture was immediately done, 10 drachms of fluid being withdrawn. The fluid flowed very freely and was very slightly turbid. On examination it showed numerous polymorphonuclear cells and intra-cellular Gram-negative diplococci. The presence of the meningococcus was afterwards confirmed in a sample of fluid at the Laboratory of the College of Physicians. The patient experienced immediate relief from the muscular pains, the opisthotonos disappeared, and the temperature fell from 102° to 99° F. The pulse, which up to this time had averaged about 76, rose to 98. About an hour after the puncture he had distinct rigors. These were confined to the upper part of the body and the arms: they lasted about a minute and recurred very frequently for about three hours, after which they did not recur. The temperature fell next day to normal, and though exhausted he was free from pain or rigidity.

He was removed to the Fever Hospital, having a rise of temperature after removal there, but only for a few hours, and six days after the puncture his temperature was slightly subnormal and remained so. He slowly recovered strength and is now back at work exhibiting his former alternating irritable and dull moods. Repeated examinations of his blood always showed a leucocyte count of under 7000. Repeated Widal tests were negative.

It is probably certain that cases of delirium during the acute infectious fevers occur in patients where there is evidence of a neurotic diathesis. The stronger the predisposition the more easily will even a mild attack of one of the fevers upset the mental condition. This man's predisposition, shown in his circular attacks of moodiness and irritability, was also apparent in his having had a mental attack during pneumonia as a youth.

The difficulty of diagnosing between typhoid and cerebrospinal fever, which made the case so interesting, was a secondary matter compared with the questions involved in the reception into an asylum of a case of a disease, which at the time was causing such alarm in the public mind and regarding the infectiousness of which so much was in doubt. It was fortunate that the possibility of an infectious disease was suspected from the first. The patient was looked after by two male nurses, who had the supervision, feeding, etc., of about forty patients, many in bed, and who were also coming in contact with people outside and inside the Asylum. The usual precautions as regards stools, urine, etc., were adopted from the moment he arrived. From the third day the patient's nose and throat were regularly disinfected with Izal. The nurses were scrupulously careful, and latterly all the male staff who in any

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capacity visited the sick room were persuaded to disinfect their throats and noses thrice daily. After the case was removed the throats and noses of all the forty sick-room patients, and any who had been assisting at meals, etc., were douched with Izal every alternate day for over a week. The whole of the clothing and furniture was burned, and the passages and room disinfected under the supervision of the sanitary authorities.

On reflecting upon some of the acutely delirious cases with high temperatures which I have seen in the past with typhoidal appearances but no other symptoms than the raised temperature and excitement, I wonder if any of these cases were undiagnosed mild cerebro-spinal cases admitted at times when the disease was not being heard of.

Recent Medico-Legal Cases.

REPORTED BY DR. MERCIER.

[The Editors request that members will oblige by sending full newspaper reports of all cases of interest as published by the local press at the time of the assizes.]

NORTH-EASTERN CIRCUIT.

The Otley Murder.

AT Leeds, on Saturday, July 18th, before Mr. Justice Bigham, James Jefferson, 21, labourer, was indicted for the murder of Elizabeth Todd at Otley on May 5th, 1908. Mr. Bruce Williamson and Mr. C. F. Lowenthal prosecuted for the Director of Public Prosecutions; and Mr. A. J. Lawrie represented the prisoner by request of the learned Judge.

Dr. Edgerley, medical officer of the West Riding County Asylum, and Dr. Exley were called to show that the prisoner was unfit to plead. They said that he suffered from insane delusions which filled his mind and largely impaired his faculty of attention. In answer to the Judge they conceded that he was able to understand what he was charged with and the effect of the pleas guilty and not guilty. They said that his attention was certain to wander during the trial, owing to his preoccupation with insane delusions. His attention at any time could only be fixed by constantly addressing questions directly to him. Mr. Justice

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Bigham warned the jury against assuming that because a man had delusions he must be unfit to be tried. He would provide counsel to look after the prisoner's interests, and unless they thought that he could not understand the proceedings on his trial he ought to be tried. The jury found him fit to plead, and he was accordingly tried for the murder. He pleaded "Guilty" at first, but at the suggestion of the Judge he withdrew that plea and pleaded "Not guilty."

The facts were not in dispute, except upon the one issue as to the prisoner's state of mind. The murder was of an exceptionally horrible character. The prisoner, a young man of 21 years of age, left Newcastle-on-Tyne on May 4th for Leeds, having just come out of prison, where he had been serving a sentence under three convictions for arson. On the following day he appears to have started to walk from Leeds to Otley. On the way he must have met the murdered woman, Mrs. Todd. She was 31 years of age, the wife of a shoemaker at Otley, and she was walking along the Otley road to visit her mother. She was seen a short distance from the scene of the murder about 4 o'clock. At about 4.25 p.m. a grocer at Otley named Hellewell was driving along the Otley road. He saw the prisoner bending over a naked body by the side of the road; he had a knife in his hand, and had just cut off the head. Hellewell asked the prisoner what he was doing. The prisoner looked up and went on hacking the body. Hellewell went off for help, and got two workmen to return with him. They went to where Hellewell had left the prisoner with the body; they could not see either for a moment, but found that he had got over the wall into the field and taken the body of his victim with him. At this time he was hacking at the arm of the dead woman, apparently trying to cut it off. The three men shouted at him to put down the knife; he made no reply, but on being threatened by one of the three men with a crowbar he threw it down. Hellewell's two companions then got over the wall and seized him, and just before they did so he picked up the woman's umbrella, corsets, and hat. They made him get back over the wall on to the road, and he then said, "I can get 7*s.* 6*d.* for the umbrella, 2*s.* 6*d.* for the corsets, and 1*s.* for the hat." A policeman then came up and formally took the prisoner into his custody, and charged him with the murder. He replied, "I do not know what made me do it." The prisoner was then conveyed to Otley, and on the way he said to the policeman, "I gave my own brother away. We broke into a house and robbed a gas meter. I told the police of him, and he got locked up. I have written to him, but I do not think he has forgiven me yet." When he got to the police-station he further said, "I do not know the woman. I met her on the road; she turned back once and then came on again. I robbed her and cut her head off, and threw her over the wall."

For the defence it was contended that the prisoner was insane at the time he committed the crime, and three medical men were called in support of the contention, Dr. Edgerley, Dr. Exley, and Dr. Exley's assistant, Dr. Ellison. They said the prisoner suffered from insane delusions. He imagined that his brother and other relatives were conspiring together to murder him. He thought his brother was Charles Peace, and would murder him. He imagined that while he was in

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Leeds Prison his brother looked through the window at him and threatened him, though in fact his brother was a convict in Portland Prison. He heard voices from time to time calling him "Thief" and other terms of abuse. He thought that the policeman who arrested him said as he took him to the station, "Let us kill him now, and he won't feel it." From these and a consideration of the circumstances of the murder the medical men gave it as their opinion that he was insane.

In answer to the learned Judge, they agreed that he knew he was killing the woman. But on the question whether he knew he was doing wrong their answers differed. Dr. Edgerley said he thought that the prisoner imagined that murdering the woman would be of some advantage to him, by ridding him of a persecutor, and that this delusion would probably be so strong in his mind that all idea of right and wrong would be excluded. Dr. Exley said:—"I think he knew he was doing wrong, but I think he had no idea how wrong."

Mr. Justice Bigham directed the jury as follows on the question of insanity:—If the prisoner knew that he was doing wrong, it does not matter that he did not know how wrong. If he knew he was doing wrong, it does not matter that he suffered from delusions or hallucinations. A man commonly described as a lunatic may be as guilty of murder as any of you. You have to determine whether he knew he was doing wrong. It is for the prisoner to satisfy you by his evidence beyond all reasonable doubt.

A juror.—If there is any doubt, is he not entitled to the benefit of it?

Mr. Justice Bigham.—No; it is the other way on. He must satisfy you beyond all reasonable doubt that he did not know he was doing wrong.

The juror.—If he knew he was doing wrong, but was insane, how then?

Mr. Justice Bigham.—If he knew he was doing wrong it does not matter how insane he was, he is guilty.

The jury, after a retirement of an hour and a half, found the prisoner *Guilty*, and he was sentenced to death.—*Times*, July 20th, 1908.

It is not often nowadays that the formula of the knowledge of right and wrong is applied with such rigorous strictness of interpretation as it was by Mr. Justice Bigham in this case. The circumstances of the murder are alone enough to raise a strong presumption of insanity in the prisoner at the time of the crime, and it was not contested that he was insane at the time of the trial. Yet he was convicted and sentenced.

It is interesting to compare the criterion of responsibility in this case with the criterion of competence in the case of a testamentary disposition or a contract. Either of the latter is vitiated by the existence of a delusion *ad hoc*, that is to say a delusion of such a character as to influence the testator or contractor in the making of the will or the contract. Here

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the evidence of Dr. Edgerley was that the prisoner in committing the murder was influenced by his delusion. It was a delusion *ad hoc*. Yet the prisoner was held responsible. The evidence of Dr. Exley was particularly interesting. He testified that the prisoner knew he was doing wrong, but had no idea how wrong. The judge brushed this consideration on one side, and said it did not matter that the prisoner did not know how wrong the act was. In thus ruling, he went counter to the opinion of his very eminent predecessor, Mr. Justice Stephen, who attached great importance to the existence of full knowledge on the part of the prisoner.

It is not for me to bandy arguments on points of law with a judge, but it is certain that very many prisoners have been found "guilty but insane" on much less cogent evidence of insanity than was adduced in this case; and it is something of a shock to us, accustomed as we now are to the liberal, and what seems to us the enlightened, interpretation given to the old formula by so many judges, to find that there is still a judge on the bench capable of interpreting it in its narrowest and most literal sense. There is, of course, not the slightest chance of the sentence of death being carried out, and the only difference that the verdict makes to the prisoner is that he has had the death sentence, which he probably did not appreciate, pronounced upon him, before being remitted to Broadmoor, instead of being sent there without this preliminary. The sentencing of acknowledged lunatics to death is becoming less and less frequent as time goes on, and such a case as this will be regarded in a few more years in the same light as the public now regards the sentencing to death of children for stealing property of the value of forty shillings.

The true moral to be drawn from the case is the unsatisfactoriness of the arrangement by which a judge is taken from a Commercial Court, in which he has gained distinction, to try criminal cases of which he has had no experience. As long as this is done miscarriages of justice will occur.

Rex v. *James Jefferson* (Appeal allowed).

This was an appeal against a conviction for murder. The prisoner was tried at Leeds Assizes for the murder of a woman in circumstances

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of great atrocity, and the proceedings there were reported in *The Times* for July 20th last.

Mr. Lawrie appeared on behalf of the appellant; and Mr. Bruce Williamson and Mr. Lowenthal appeared for the Crown.

Mr. Lawrie, in opening the appeal, said the prisoner had been through two separate trials at Leeds. The only defence set up being insanity, there was first an inquiry as to whether he was fit to plead, and then there was the trial on the main charge. He now appealed on the ground that, on the medical evidence given at the preliminary inquiry, the prisoner ought not to have been tried on the main charge at all.

Mr. Justice Darling.—The Act only gives leave to appeal against a "conviction"; how can you say that a finding that a prisoner is fit to plead is a conviction?

Mr. Lawrie.—I must withdraw the appeal against the finding that the prisoner was fit to plead, and will confine myself to appealing against the subsequent conviction.

Mr. Justice Darling.—I want to make that clear as a ruling of this Court.

Mr. Lawrie then submitted that the Court, on the medical evidence, ought to find that the prisoner was insane, and order him to be kept in custody as a criminal lunatic under Section 5 (4) of the Criminal Appeal Act.

At the conclusion of Mr. Lawrie's argument,

Mr. Justice Lawrance asked Mr. Bruce Williamson if he was going to argue that the prisoner, having been found to be sane by the jury, was in fact sane.

Mr. Williamson said he thought it was his duty to call attention to the evidence so far as it supported the verdict of the jury: but, having regard to the very peculiar circumstances attaching to the commission of the crime and the conduct of the prisoner at the time, he could not suggest that there was not a serious question to be determined as to whether this man had a sane mind when he committed this horrible murder.

Mr. Justice Darling.—It was proved that he cut off the woman's head in the presence of witnesses and made no attempt to escape, and also that he took certain articles of clothing not worth sixpence and brought them away with him. Some of the doctors at the trial said he was insane even then.

Mr. Justice Lawrance.—No one here suggests that there was no evidence to go to the jury. The question is whether their finding was satisfactory, having regard to all the facts of the case.

Mr. Bruce Williamson.—Having regard to all the facts, we cannot say that the finding of the jury was satisfactory.

Mr. Justice Lawrance, in giving judgment, said that there was no doubt that the verdict given was unsatisfactory, and in his judgment it ought not to stand. He had read the evidence given by the doctors, and it appeared that there was strong evidence called before the jury which showed that this man was not in such a state of mind as to make him responsible for his act. The verdict given being unsatisfactory, he thought they ought to say that the verdict which the jury should have

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returned was that the man was insane when he committed the act. He hoped the case was not one of those in which the jury returned the verdict they found because they knew that there was a Court of Appeal behind them to which recourse might be had. The verdict would be set aside, and the order would be that the prisoner should be detained as a criminal lunatic during his Majesty's pleasure.—*Times*, July 31st, 1908.

The Court of Criminal Appeal took the only possible course open to it, but, if it had not existed, the same practical result would have ensued. Even counsel for the prosecution admitted that the finding of the jury was unsatisfactory. Whether the procedure of the Court of Appeal is on the whole better than the intervention of the Secretary of State, must be a matter of opinion. In such a case as this, in which the miscarriage of justice at the trial was open and palpable, there is probably not much difference between the two; it is in cases where the evidence is more evenly balanced that the difference will come into view. The Court of Appeal, though less bound by rules than the Assize Court, will not have the wide discretion in admitting evidence that inheres in the Secretary of State, but the publicity of proceedings in the Court will probably be more satisfactory to the public. We shall watch future cases with much interest.

The inability of the Court of Appeal to review the finding of the jury in the issue of fitness to plead is of interest, but perhaps not of much practical value.

Mr. Justice Lawrance said: "The verdict being unsatisfactory, he thought they ought to say that the verdict which the jury should have returned was that the man was insane when he committed the act." But this was precisely the verdict which the jury evidently wished to return, and would have returned if they had not been forbidden by Mr. Justice Bigham. If the report is correct, the judgment is very important, for judges are bound by the deliverances of the Court of Appeal, and in future it will not be necessary to prove knowledge of right and wrong, but only insanity of the prisoner at the time of committing the crime, in order to secure a verdict of guilty but insane.

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Occasional Notes.

The Annual Meeting.

The Annual Meeting has again demonstrated the steady increase in the work and organisation of the Medico-Psychological Association. To the members who can recall the meetings of thirty years ago the contrast is indeed striking, although even at that period the output of energy was great in comparison with the small numbers of the Association and the greater difficulties in attending the meetings.

The connection between the present and the past of the Association was pleasantly and vividly brought to remembrance by the presentation to the meeting of an album containing the portraits and autographs of all the past Presidents and Chairmen of the Association, to which special allusion is made on another page.

The address by Dr. Mercier is worthy of the reputation of the President, and no higher praise or expression of admiration is necessary. The reputation of the Association is distinctly enhanced by such a brilliant contribution to its literature.

The work of the meeting extended over three days. The various Committees dealt with a large number of matters of great interest, not only to the insane and the Association, but also to the public. The examination and registration of nurses and the education of medical men in mental diseases are the more prominent of these.

In the papers read at the meeting a question of great practical interest, "The Boarding Out of the Insane," was raised by Dr. R. C. Brown. The discussion, however, was postponed until a later meeting, and the desirability of any action on the part of the Association will then have to be decided.

The case against dementia præcox, stated by Dr. Robert Jones, was a very bright challenge to the supporters of this debated form of insanity, and met with a very ready response.

The battle was, however, not fought out, but also adjourned. The further discussion, whether at a meeting or in the pages of the Journal, should be productive of valuable criticism and of all possible evidence in favour of this alleged form of disease.

Owing to the delay in the issue of the Royal Commission on

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the Care and Control of the Feeble-minded, Dr. Donkin's account of this work could not be communicated.

Lady Henry Somerset's address on the treatment of inebriates constituted one of the most striking and valuable communications of the meeting. Her practical, common-sense views, evidencing extensive experience, were stated in a clear, systematic method that excited general approbation and admiration.

The Annual Dinner was also characteristic of the progressive tendency of alienists, and will stand on record as the first at which ladies who were neither members of the profession nor of the Association were invited to attend.

The Album of Presidents.

The presentation of an album, containing the portraits of all the Presidents of the Association, by Dr. Outterson Wood was a memorable feature of the annual meeting. Following on Dr. Hack Tuke's sketch of the history of the Association, Dr. Outterson Wood rescued from oblivion the names and dates of our official members, and the list has been carefully published every year in the journal. It therefore seemed fitting that this work should be supplemented by preserving the portraits of those who have passed the presidential chair. The collection and arrangement of these has occupied two years; and, contrary to the most sanguine expectation, the Association has now in keeping a complete pictorial record from 1841 till 1908 inclusive. This is contained in a handsome book, the preface of which is reproduced from Conolly's writings in retirement, a beautiful and touching account of his later experience of life, near to Hanwell, full of interest in that great hospital, and, indeed, in all the asylums of the country. "When my thoughts are transferred to nearly forty public institutions for the insane . . . . I find a reward for any share I have had in promoting these things beyond my deserving."

Following on the preface is the portrait of Dr. Blake, of Nottingham, chairman in 1841. The others follow in regular succession. In a panel below each portrait the name and designation and date of each are clearly given, together with an extract from his presidental address characteristic of the address, and an autograph signature. The completeness with

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which the work has been carried out is gratifying, not only to Dr. Outterson Wood and Dr. Urquhart, with whom he was associated, but also to the members of the Association generally. Much interest was displayed in the album at the Society's rooms and also in the ante-room before the annual dinner. The finely-bound album in purple morocco, displaying the stamp of the Association, was the work of Mr. John Macgregor, of Perth, who was deservedly complimented upon his share of the undertaking.

One cannot turn over the leaves of this album without awakening a host of kindly and interesting memories. We have still a link of personal association with Dr. de Vitrè, of Lancaster (1842), in Dr. Clouston, who met him during his service in the Cumberland Asylum. Dr. Thurnam, whose work in statistics and craniology is still important, is dated 1844 and 1855, having been Chairman and President. By an odd chance, favoured by the veteran Dr. Brushfield, the silhouette of Dr. Wintle, of Oxford (1847), was obtained for representation. His son, the Rev. F. F. W. Wintle, of Bere Ferrers, Devon, unfortunately felt unable to be present at the annual meeting, but he wrote an interesting letter of reminiscences, stating that Dr. Wintle died at his post; after which bereavement he himself was appointed secretary to the Warneford, proceeded to medical studies, and eventually became a clergyman in 1859. Dr. Wintle died in 1853, leaving five sons and a daughter. In the Commissioner's Report of 1847 may be found Dr. Wintle's remarks on the value of opium in mental disorders, and on his opposition to blood-letting. He also advocated the use of creasote. His long service of twenty-six years in the Warneford was the subject of an appreciation by the Committee, in which they testified to his devotion, benevolence, and careful supervision.

We might pursue these biographical details at great length—indeed, they form part of the history of psychiatry in all their relations; and it is to be hoped that an adequate account of the men who founded and built up the Association will yet be forthcoming. Conolly's name is prominent in our records. Forbes Winslow, Sir Charles Hastings and Sir John Bucknill's development of medical organisations is a tempting subject, but the mere mention of them gives us pause. The materials for a biography of Sir John Bucknill are in existence and must be

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full of interest—we recall him as the first editor of this journal, as physician to the Devon Asylum, as Lord Chancellor's visitor, but his circle of influence was far wider than the specialty, and tardy honours were paid to him who conceived the idea of the Volunteers and gave impetus to his conception by starting the 1st Battalion of the Devon regiment in 1852.

A glance at the list of Presidents warns us to desist from these brief notes. The honourable roll is complete, and we have now a presentation of them as they lived. We would welcome personal and literary reminiscences of them from those who know.

Scientific Research Work in Asylums.

The Commissioners in Lunacy, in the supplement to their report for 1908, have added an account of the clinical and pathological investigations carried on in asylums and asylum laboratories.

During the year under review the summary of work thus recorded proves that an important amount of original investigation of a very high character has been produced from these sources, and is an evidence of the considerable proportion of scientific workers in the specialty.

This new departure will act as a much-needed stimulus to the progress of scientific work in asylums, the results of which will, without doubt, appear in the summaries of succeeding years. The Commissioners in Lunacy are to be congratulated on having adopted a procedure which will certainly produce very beneficial results.

The benefit, however, will not only consist in an added impetus to scientific investigation, but will strengthen the standing of the Lunacy Commission both in professional and popular estimation. Recent Royal Commissions have demonstrated how much valuable information can be obtained on any given subject in a comparatively short period, and the public will expect that a permanent Commission should yield still more important results.

The Lunacy Commission in the past, mainly by reason of its numerical inadequacy to the work thrown upon it, has been too much limited in its inquiries to the mere care and custody,

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the bricks and mortar, bread and butter, water and drain aspects of insanity. These are of great importance and of absolute necessity in dealing with the evil results of our faulty civilisation, but there are larger and more important areas of work beyond these.

Modern benevolence, however, while not neglecting the end products of our social errors, is turning its attention more and more to their prevention. The Lunacy Commission will, no doubt, not be content to stimulate the study of disease from the point of view of treatment, but will doubtlessly also urge an inquiry into the actual modes of production of insanity. To this end a much more thorough investigation of causation is absolutely necessary, in order to instruct the public in regard to the means necessary for the reduction of the mass of insanity which constitutes so great a blot on our civilisation. The teaching of the means necessary for the prevention of insanity should indeed constitute an important, if not primary aim, of the Commission, and we hail with satisfaction the evidence in the present report that scientific research in future will not be without official recognition and encouragement.

Report of the Commission on the Care and Control of the Feeble-minded.

The report of the Royal Commission, which was appointed in 1904, has at last been issued, after a laborious and voluminous investigation. The Minutes of Evidence will soon be given to the public, vols. i and ii relating to England and Wales, vol. iii relating to Scotland and Ireland, on the original reference, vol. iv relating to England on the extended reference, vol. v appendix papers, vol. vi on medical investigations, and vol. vii on the visit of certain commissioners to America.

The original reference to the Commission was:

"To consider the existing methods of dealing with idiots and epileptics, and with imbecile, feeble-minded, or defective persons not certified under the Lunacy Laws; and, in view of the hardship or danger resulting to such persons and the community from insufficient provision for their care, training and control, to report as to the amendments in the law or other

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measures which should be adopted in the matter, due regard being had to the expense involved in any such proposals and to the best means of securing economy therein."

The following classes of persons were considered :

(1) Idiots, certified and uncertified ; (2) epileptics, certified and uncertified ; (3) Imbecile, feeble-minded or defective persons not certified under the Lunacy Acts.

In November, 1906, there was a further direction :

"To inquire into the constitution, jurisdiction, and working of the Commission in Lunacy and of other lunacy authorities in England and Wales, and into the expediency of amending the same or adopting some other system of supervising the care of lunatics and mental defectives ; and to report as to any amendments in the law which should, in their opinion, be adopted."

The Commissioners, therefore, proceeded to inquire into the working of the Central Authorities in England and Wales—The Lunacy Commission, the Judge and Masters in Lunacy, and the Lord Chancellor's Visitors in Lunacy. The Report is signed by all the Commissioners, under the Chairmanship of the Earl of Radnor. Certain of their number sign under reservations and explain their opinions.

Representatives of all classes interested who could assist the Commissioners by information were examined to the number of 248. Visits were made to institutions at home and abroad. The result of this searching inquiry is too widespread and important to be dealt with fully on this occasion. We would desire, however, to notice a few of the out-standing recommendations pending a more thorough examination of this important Report, and its Appendices.

First of all the Commissioners obtained a report upon the number of mentally-defective persons to be dealt with, from investigations in sixteen typical districts. These may be stated at 149,628 in England and Wales, or ·46 *per cent.* apart from the certified insane. It is further estimated that 44·45 *per cent.* of these are urgently in need of provision in their own interest or for the public safety. The total number of mentally-defective persons, including the certified insane, is, therefore, 271,607, or ·83 *per cent.* of the population.

The Commissioners are compelled to the conclusion that there is much neglect to the injury of the defective persons

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themselves and to others, and expenditure wasteful to the community. The evidence suggests to them that a settled plan of action should be established between the existing agencies under one supervising authority, to ensure permanent care.

Generally, that the mentally defective should have suitable State protection; that the ground for such protection is the mental condition; that they should be brought into relation with the local authority; that care should be continuous so long as necessary; that a central authority is required; that the property of the mentally defective should be uniformly protected; that there should be the closest co-operation between judicial and administrative authorities.

The case for legislation would appear to be strong, and it must be considered with the Report of the Royal Commission on the Poor Law and the Departmental Committee on the Inebriates Acts, both of which are expected to be made public in the course of this autumn.

The Commissioners find no difference in regard to London which would lead to a different scheme from that which they have recommended for England generally.

As regards mentally defective children it would appear that 5·9 *per cent.* of the total number on the school register require more suitable provision than at present exists. The Commissioners advise co-operation between the authorities for a better administration of idiot asylums, and urge that great changes should be made in law and procedure affecting the mentally defective in relation with crime, and record their finding that from 60 to 70 *per cent.* of drunkards dealt with under the Inebriates Acts are mentally defective. They recommend that these persons should be specially provided for.

The Commissioners conclude that all cases of epilepsy should be provided for by the authorities which they have indicated—on the ground that the relation of epilepsy with mental defect is so close.

Recognising the connection between heredity and mental defect, the Report states that if the mentally defective were prevented from becoming parents, there would be a diminution of such persons, but that if surgical or artificial measures to that end were proposed in legislation, such a course would be rightly condemned.

The Commissioners discuss the methods by which chronic

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and harmless patients can be provided for, setting free asylum accommodation for the more acute cases: (1) Separate hospitals; (2) family colonies; (3) boarding-out as in Scotland; (4) large farm colonies. They also approve of the establishment of reception wards and the adoption of a temporary certificate for unconfirmed cases. The Commissioners suggest that the words *lunatic* and *asylum* should be discontinued, that the persons affected should be considered as persons of unsound mind, as mentally defective or mentally infirm, and that asylums should be referred to as hospitals.

Finally, they estimate the cost of their proposals at £1,175,802 for England and Wales, an increase of the present annual cost of £541,492, all of which will not probably be borne by the public; and they advise the discontinuation of the 4*s*. grant.

These are far reaching and important proposals which cannot be lightly adopted. The cost is enormous and can only be justified on the ground of necessity. No doubt the Commissioners present a strong case, and it is to be hoped that certain urgent measures will be adopted soon. It is evident that the Poor Law will require a drastic revision, and that we ought to come into line with other countries in dealing with vagrants, and the unemployed, and the unemployable. It is certain that inebriates should be more stringently dealt with. How these great and vital questions are to be consolidated and solved can certainly not be indicated in the space of this brief note, which is rather meant to inform than to criticise.

Part II.—Reviews.

The Psychology of Alcoholism. By GEORGE B. CUTTEN, B.D., Ph.D.Yale. London: The Walter Scott Publishing Co., Ltd., 1907. 8vo. Price 5*s*.

Dr. Cutten, from the psychological and religious point of view, has made this study of alcoholism, which is mainly a *resumé* of recent work on the subject. He directs his attention in the first place towards the alcoholic disturbances of emotional life, of moral, artistic, and religious sentiments, towards the relief of drunkards by psychological methods, which he believes to be most appropriate

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and efficacious. The book is the outcome of Dr. Cutten's theses for the degrees of Ph.D. and B.D., studies which have been enlarged for the present-purpose. After an introductory chapter he enters on a consideration of physiological psychology, illustrated by various drawings culled from well-known treatises and formulated from authors whose opinions on the destructive nature of alcohol are more or less pronounced. The same plan of extensive quotation has been pursued relative to memory, intellect, will, the emotions and the senses. It is hardly necessary to follow Dr. Cutten on these familiar lines. The eighth chapter deals with the psychological aspect of morals, discussing the question of responsibility. The author enters into a consideration of physical conditions affecting conduct, and passes to the effects of mental deterioration, which he has previously established. His conclusion is that an alcoholic person is not responsible, because his memory is contracted, his will is gone, his emotions are limited, and his moral nature is warped or destroyed. Further, he inquires if that person is responsible for becoming alcoholic, and, having made allowance for hereditary influences, affirms that some degree of responsibility does exist. A chapter on the relation of insanity and alcoholism deals with familiar observations and need not detain us.

That section of the book which points to religious conversion as a cure emphasises the efficacy of changed associations and the emotional substitute. Dr. Cutten's investigations and experience induce him to believe that religious conversion is the most efficacious cure of alcoholism. Hypnotism he regards as merely a help to a patient, for the environment remains unchanged, and there are two conditions of success not always obtainable—co-operation on the part of the subject and a hypnotisable person with which (*sic*) to deal.

Dr. Cutten's book is chiefly useful as a fairly well indexed collection of extracts and references, some of which are authoritative, while others are of doubtful validity. Professor Trumbull Ladd, in a short preface, vouches for the indubitable facts of Dr. Cutten's experience, but our melancholy impressions lead us to doubt the statements of those unfortunate alcoholics, whether we appeal to Philip drunk or Philip sober.

Hypnotism, or Suggestion and Psychotherapy. By Dr.(Med.) AUGUST FOREL, formerly Professor of Psychiatry and Director of the Asylum at Zurich. Translated from the fifth German edition by H. W. ARMIT, M.R.C.S., L.R.C.P. London: Rebman, Limited, 1906. 8vo. Price 7*s.* 6*d.* net.

It is unnecessary to review Professor Forel's well-known and highly appreciated treatise. It is convenient in its present form, and will introduce a philosophical and practical work to a still wider circle of readers. The fifth edition appeared in 1905, sixteen years after the first, which represented two years' experience in the practice of hypnotism. Semon's theory of the mneme finds place in the present edition, that is, the memory as a general law of organic life, and

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Darwin's recent address further awakens an interest in this subject. It is strange that Dr. Charles Creighton's work on *Unconscious Memory in Disease* has attracted so little attention on the part of those who have recognised the value of Semon's interpretation. The opening chapter on "Consciousness" forms a most interesting *resumé* of Professor Forel's position, and his mastery of the subject, which occupies most of the work, is evident on every page.

When we turn to that part dealing with insanity we find it broadly stated that of all people the insane are the least suggestible, and those whose mental disturbances are severe are usually absolutely unsuggestible. Those suggestions which are directed against delusions act least of all. As an opponent of the Charcot school, Forel states emphatically that suggestibility is an absolutely normal characteristic of the normal human brain. This is in accordance with common experience —a sane man may be persuaded of his error, but argument is useless with the insane. Indeed, Forel says that attempts to hypnotise delusional patients only supplies them with material for delusions. This is in agreement with the general results observed by those of our colleagues in this country who have used hypnotism in asylum practice. The chapter dealing with the forensic danger of hypnotism should have the most careful study. The restrained, balanced judgment of Professor Forel is evident throughout his discussion of these real perils. We commend the book as a credit to the translator and publishers, who have done good service in producing it.

Psychology. By C. H. Judd. New York: Charles Scribner's Sons, 1907.

This volume forms the first of a series of text-books designed to introduce the student to the methods and principles of scientific psychology. The second volume of the series, dealing with experimental psychology, has already appeared.

The author adopts the functional as opposed to the structural or analytical method of treatment. This point of view, of course, forms the keynote of one of the most virile schools of modern psychology, which has done much to bring the science more into touch with life and reality.

Wherever possible genetic considerations are also taken into account, and a considerable space is devoted to the physiological correlates of mind. But the physical, physiological, and psychological are generally sharply distinguished from one another, and there is but little of that confusing mixture which one is accustomed to encounter in elementary text-books.

Space and time are regarded as functional relations between sensations. A similar view is adopted concerning the affective aspects of the mind. "Feelings are unique phases of experience which depend for their character upon the congruity or incongruity of the different active tendencies of any given moment; they are attitudes, never to be confused with contents."

The chapter on "Forms of Dissociation" is naturally that of most

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interest to the alienist, but as the treatment is necessarily sketchy this part of the book is not very clear or illuminating.

The final chapter deals with the applications of psychology, and contains much that is suggestive and stimulating.

The book constitutes, on the whole, an excellent presentation of the general point of view of modern psychology. But owing to the rapid development of the experimental method the science is inevitably a good deal in advance of its text-books. Hence we cannot help noticing certain defects in the present volume. For example, there is no mention of the researches of Marbe and Bühler on the thought processes, or of Jung's work on associations, which are of such importance as to practically revolutionise many of the older theories. The immense influence of the affective side of the mind is only beginning to be recognised, although it is in this sphere that the alienist may reasonably hope for assistance from the psychology of the future. Such defects are, however, inevitable in a general work dealing with a progressive science, and cannot in any way be regarded as a reproach.

BERNARD HART.

Psycho-therapy [*Zur Psychologie und Therapie Neurotischer Symptome*]. By A. MUTHMANN. Halle a. S: Carl Marhold, 1907.

This work presents the results attained by the application of Freud's methods to certain cases in the Bâle Clinic.

The preliminary chapters give a *resumé* of Freud's general principles and methods. This is followed by certain theoretical considerations concerning the *rôle* of the sexuality in the genesis of the psychoses. The remainder of the book is occupied by an analysis of several illustrative cases.

In the process of psycho-analysis Muthmann makes use of hypnosis, a method which Freud himself no longer employs. The author does not consider that the objections thereto are altogether sound, and points out that hypnotism has the advantage of greatly reducing the time expended on the treatment. Freud estimates that the analysis of difficult cases requires from six months to three years.

Muthmann refers to Jung's association experiments, but does not employ them in his own cases, although it would appear that the technical difficulties of psycho-analysis may be thereby greatly reduced.

The book is, on the whole, clearly written and easy to understand, and may be confidently recommended as an excellent introduction to the subject with which it deals. BERNARD HART.

Jahrbuch für Sexuelle Zwischenstufen. Edited by Dr. MAGNUS HIRSCHFELD. Vol. ix. Pp. 664, 8vo. Leipzig: Spohr, 1908. Price 12 m.

This year-book was founded nine years ago for the publication of studies dealing with the intermediate stages of sexuality, more especially homo-sexuality, from the anatomical, physiological, psychological, historical and social points of view. The large volumes which have

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ever since been issued year by year have contained contributions, sometimes by well-known physicians and scholars, which, although they have now and then betrayed an unduly enthusiastic or eccentric enthusiasm for the subject discussed, yet, on the whole, reach a high scientific level and at the same time display extraordinary variety and interest. The *Jahrbuch* for last year contained, for example, among other monographs, a lengthy essay on "The Nature of Love," by Dr. Hirschfeld, a paper on the homo-sexual figures in Dante, a long historical sketch of the history of sexual inversion in the Netherlands by Dr. Van Römer, psychological studies of Madame Blavatsky and the Emperor Hadrian, and a psychiatric discussion by Dr. Näcke.

The present issue is not less fresh and varied, though it opens, indeed, with a contribution to an endless source of discussion in Germany—the question of removing from the German code the paragraph making any homo-sexual act *per se* a criminal offence. The author, Dr. Numa Praetorius, a lawyer, wishes to bring the German law into line with that of Holland and the Latin countries as regards this matter. Dr. Alfred Kind follows with a paper of more medical character on homo-sexuality as complicated by sadism, masochism, or some form of fetichism, bringing forward several cases from among one hundred which he has obtained of such complication. Next comes a study, of entirely different character, on the painter Sodoma; the writer, Elisar von Kupffer, evidently possesses a full knowledge of his subject, though his judgments are sometimes a little uncritical, and his article, which extends to one hundred pages, is valuable, if only for the numerous well-produced illustrations of the works of a master by no means easy to see even in Italy. Sophie Hoechstetter follows with a paper on the early life of Queen Christina of Sweden. There is little original research here, but the main facts and probabilities are brought together and the conclusion reached that Christina, though by her sexual functions a woman, was of "bisexual" organisation with predominantly homo-sexual attractions, the sexual life being, however, mainly transformed into psychic activity and here chiefly revealing its bisexuality.

Two papers deal with homo-sexuality in Greece. In the first Kiefer discusses Socrates, concluding that he was of bisexual constitution, but that, owing to his strong intellectual and ethical tendencies, sexual impulses had in him undergone a spiritual transformation. The second is a lengthy and methodical study of the homo-sexual poems in the Greek Anthology. To the same group may be said to belong a short paper by Dr. Näcke in elucidation of the exalted homo-sexual comradeship customary among the Albanians, since this not only resembles the form of homo-sexuality we find among the Greeks, but may probably be traced back to a common root in ancient relationships of race.

Finally, an interesting contribution is furnished by Dr. J. Sadger, of Vienna, under the title of "Fragment of Psycho-analysis of a Homo-sexual Case." Sadger is perhaps the ablest and the most enthusiastic of Freud's pupils, and he carries out Freud's methods of investigation and treatment with an uncompromising thoroughness worthy of his teacher. This history in its elaborate detail and its penetrating attempts to reach the emotional core of the morbid condition is entirely in Freud's manner. It remains a fragment, for the patient, a young man,

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disappeared after thirteen sittings,—a very early stage from the psycho-analytic standpoint,—but Sadger believes there was a good prospect of removing the homo-sexual tendencies. Hypnotic suggestion he considers has now been proved to be too superficial and temporary in its effects to be of real use in such cases, but the psycho-analytic method he regards as sounder and more fundamental, since it acts by awakening the latent but repressed normal instincts. Sadger believes that even the most ordinary people have in them some element of homo-sexuality, but that this tends to become especially prominent under the influence of hysteria, obsessional neuroses, and even insanity. Formerly, he remarks, he knew as little about sexual inversion as other nervous specialists, and thought it very rare. Now he constantly finds it at the root of the commonest of the neuroses, hysteria, and with care traceable back to earliest childhood, while it is not seldom the cause of the hysterical outbreak.

The concluding two hundred and fifty pages of the volume are devoted to a full and conscientious critical summary af the recent literature bearing on the subjects dealt with in the year-book. The space thus occupied is somewhat less than usual, since the task of reviewing has now to some extent fallen to the new *Zeitschrift für Sexualwissenschaft*, certainly the best and most scientific of the numerous journals now devoted to topics of sex.

HAVELOCK ELLIS.

Part III.—Epitome of Current Literature.

1. Physiological Psychology.

Erotic Dreams in Normal Persons [*Il Sogno Erotico nell'uomo normale*]. (*Riv. di Psicol., January–February*, 1908.) *Gualino, L.*

The subject of sexual activity during sleep has been touched on by various psychologists and alienists and studied in detail in a few individual cases. Gualino appears to be the first to investigate it on a larger scale, and bases his paper on the experiences of 100 persons among his acquaintances, doctors, teachers, etc. (apparently all men), to whom he addressed a series of questions. They had all had experience of the phenomenon which Gualino regards as entirely normal.

Gualino finds that erotic dreams, with emissions (whether or not seminal), began somewhat earlier than the period of physical development as ascertained by Marro for youths of the same part of northern Italy. Gualino found that all his cases had had erotic dreams at the age of seventeen; Marro found 8 *per cent.* of youths still sexually undeveloped at that age, and while sexual development began at thirteen years erotic dreams began at twelve. Their appearance was preceded in most cases for some months by erections. In 37 *per cent.* of the cases there had been no actual sexual experiences (either masturbation or intercourse); in 23 *per cent.* there had been mastur-

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bation; in the rest some form of sexual contact. The dreams are mainly visual, tactual elements coming second, and the *dramatis persona* is either an unknown woman (27 *per cent.* cases) or only known by sight (56 *per cent.*), and in the majority is, at all events in the beginning, an ugly or fantastic figure, becoming more attractive later in life, but never identical with the woman loved during waking life. This, as Gualino points out, accords with the general tendency for the emotions of the day to be latent in sleep. Masturbation only formed the subject of the dream in four cases. The emotional state in the pubertal stage, apart from pleasure, was anxiety (37 *per cent.*), desire (17 *per cent.*), fear (14 *per cent.*). In the adult stage anxiety and fear receded to 7 *per cent.* and 6 *per cent.* respectively. Thirty-three of the subjects, as a result of sexual or general disturbances, had had nocturnal emissions without dreams; these were always found exhausting. Normally (in more than 90 *per cent.*), erotic dreams are the most vivid of all dreams. In no case was there knowledge of any monthly or other cyclic periodicity in the occurrence of the manifestations. In 34 *per cent.* of cases they tended to occur very soon after sexual intercourse. In numerous cases they were peculiarly frequent (even three in one night) during courtship, when the young man was in the habit of kissing and caressing his betrothed, but ceased after marriage. It was not noted that position in bed or a full bladder exerted any marked influence in the occurrence of erotic dreams; repletion of the seminal vesicles is regarded as the main factor. HAVELOCK ELLIS.

Modern "Speaking with Tongues" [*Das Moderne "Zungenreden"*]. (*Psychiat.-Neurolog. Wochensch., Nos.* 8 *and* 9, 1908.) *Mohr, F.*

Mohr here studies from the psychiatric standpoint a recent epidemic of glossolalia in Cassel. He traces it back to Wales (Evan Roberts) and America, and considers that its eruption is specially liable to occur among emotional and inflammable populations (Welsh, Hessians, etc.) and is favoured by the pronounced mystic and occult tendencies of the present day. He compares the phenomenon to katatonic speech, and also regards it as a hysterical form of speech disturbance. He finds severe hysteria, dementia præcox, paranoia, and occasionally epilepsy among the persons affected by the epidemic.

HAVELOCK ELLIS.

The Diagnosis of Homo-sexuality [*Die Diagnose der Homosexualität*]. (*Neurolog. Cbl., April* 16*th*, 1908.) *Näcke, P.*

Näcke here returns to his attempts to give greater precision to the conception of sexual inversion. What is homo-sexuality? Näcke answers that "every feeling aroused by the sight or touch of another person of the same sex, whether it becomes actively sexual or not, is homo-sexual." He adds that (contrary to Hirschfeld) he disbelieves the possibility of such feelings remaining purely platonic. This feeling is specific. How is its presence to be recognised? Näcke does not consider that there are any reliable objective physical signs. The genitals are usually normal, and (in agreement with Rohleder) Näcke regards inverts of pronounced feminine appearance as rare exceptions. He knows only one sure sign

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of homo-sexuality, and that a purely subjective one—the inverted character of the sexual dreams. Even that sign, as he cautiously and truly adds, is not reliable unless it holds good of the dreams generally, for an isolated homo-sexual dream has no significance. Sexual precocity is very common in inverts, but it is by no means diagnostic. Of more importance is *horror feminæ* combined with an enthusiastic cult of friendship, but *horror feminæ* is not, of course, present in persons with bi-sexual tendencies. Näcke is forced to admit that there is no certain diagnostic sign, objective or subjective. The heredity, also, he considers, furnishes little help. Neuropathic conditions are not specially common, and the stigmata of degeneration not notably more frequent than in normal hetero-sexual persons, so that Krafft-Ebing was finally compelled to abandon his earlier conception of sexual inversion as a degenerative manifestation. Näcke concludes with some considerations concerning the phenomenon in ancient Greece, where it certainly involved a very large amount of pseudo-homo-sexuality. HAVELOCK ELLIS.

The Nature of Hallucinations [*Nature des Hallucinations*]. (*Rev. Phil., June*, 1907.) *Leroy, B.*

Leroy begins by disproving the view of Taine that an hallucination is an exaggerated normal phenomenon—that is, an unusually strong mental representation of qualitatively the same kind. He then proceeds to argue against the idea of Brierre de Boismont, according to which hallucinations tend to appear in states of strained attention. He shows that, on the contrary, it is in states of passivity or semi-passivity —states that are passive to an abnormal extent—that "visions" and "voices" tend to be manifested. In such states voluntary attention is reduced to a minimum. Hallucinations never appear under normal psychological conditions. Something more, however, is needed than a state of weakened voluntary attention. This is a state of involuntary attention, such as may be detected, the author truly points out, in ordinary hypnogogic visions. There is thus a state of special automatic attention, and it is possible, Leroy adds, that this phenomenon of involuntary orientation of the organism plays an important part in what may be called the state of implicit belief. The author believes that the combination of this automatic attention with the disturbance of voluntary attention suffices, if not to explain completely the mechanism of hallucinations, at all events to differentiate them from other mental states. HAVELOCK ELLIS.

The Definition of Hysteria [*Quelques Mots sur la Définition de l'Hystérie*]. (*Arch. de Psychol., October*, 1907.) *Claparède, E.*

Much of the disagreement concerning the definition of hysteria is due to the different points of view from which the subject is approached. Each observer tends unconsciously to frame a definition according to the therapy which he finds most efficient. It is erroneous to suppose, however, that perfect definitions must precede every investigation. The perfect definition of a thing is the crown of its complete study, and quite different from the preliminary delimitation. The latter

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merely serves to roughly mark out the domain which we propose to investigate.

The author objects to Babinski's view that hysteria is characterised by symptoms which are all the product of suggestion and auto-suggestion. Suggestion is rather to be regarded merely as one symptom amongst the others. In any case, this exaggerated suggestibility itself requires explaining, so that Babinski's definition does not really take one very far. Everyone admits the close relationship between hysterical phenomena and those produced by suggestion, but this does not necessarily mean that they have the same origin. Now it is precisely this question of origin which mainly interests us.

Breuer and Freud regard hysteria as due to the suppression by the personality of memories having a strongly marked unpleasant affective tone. Now one may throw some light on this hypothesis by considering the question biologically. From this point of view the "suppression" may be conceived as a mode of defence adopted by the personality in order that the latter may rid itself of certain unpleasant impressions. According as these are memories, acts, or sensations, so we have amnesias, paralyses, anæsthesias. When the inhibition is total, a syncopal attack results—homologous with the simulation of death observed in certain animals. Vomiting, spasm of the œsophagus, etc., may be similarly interpreted. In general one may say that from the biological standpoint a certain number of hysterical symptoms seem to be the exaggeration of defensive reactions which are only present in a rudimentary way in the normal individual or which have phylogenetically altogether disappeared.

We are next led to inquire what is the cause of this tendency to exaggerated reaction. This is the fundamental question of the "hysterical constitution." No satisfactory solution is forthcoming, but making use of the conceptions developed above, it may be said that the hysterical constitution is characterised by a tendency to reversion, to atavism, to ancient types of reaction.

It is difficult to bring hallucinations and certain other phenomena into line with the above, and one is compelled to admit that all the symptoms of hysteria do not originate on the same plane. As Breuer and Freud remarked, hysteria may be likened to a building consisting of several stories.

The paper concludes with a plan showing a suggested arrangement or hierarchy of the symptoms of hysteria, illustrating their mutual relation to one another. BERNARD HART.

Is Hysteria Curable? [*L'hystérie est-elle curable?*]. (*Le Prog. Med., January 18th*, 1908.) *Terrien.*

The accidents of hysteria must be only regarded as external manifestations of the neurosis and not the whole malady. There are hysterics who have never revealed the state by any accidents, though the latent disease is there, awaiting only the occasion to display itself. This hysterical state or diathesis the author considers ingrained and incurable. He demonstrates clinically how hysterical symptoms may be artificially reproduced in hypnosis after they have been absent for as many as ten

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years. Hypnotic states he regards as purely hysterical phenomena, and from this standpoint he argues that the production of such states, with reappearance under suggestion of the accidents, is an indication that the underlying tendency has remained unchanged during a prolonged period of apparent freedom from symptoms. H. DEVINE.

The Psychology of Thought [*Tatsachen und Probleme zu einer Psychologie der Denkvorgänge, I. Ueber Gedanken*]. *Karl Bühler. Leipzig: Wilhelm Engelmann*, 1907.

The author endeavours to analyse the thinking processes by means of certain experimental methods. "Thinking" has been defined in various ways, but the majority of authorities have agreed that the content of thinking is not something specific in itself. It is this conception, originally developed from Locke's sensationalism, which the present paper contests.

The experimental method adopted is based on that first utilised by Marbe. The work is divided between an experimenter and an observer. A question devised by the former is dictated to the latter, who first answers it, and then describes to the best of his ability the various processes through which his mind has passed. The questions are of considerable difficulty so as to exclude the possibility of a comparatively automatic answer.

If the various examples of thought-processes thus obtained are subsequently examined one finds that they are composed of the following elements: (1) An easily-distinguished group of sensory elements—optic, auditory, verbo-motor, etc.; (2) feelings, and those more neuter tracts of consciousness, such as doubting, astonishment, reflexion, for which one may temporarily employ Marbe's term "consciousness groundwork"; (3) something of which "clearness," "liveliness," "certainty" may be predicated but which has no sensational content. This we may call simply *thoughts* (Gedanke).

Now, if one examines the experimental results it is at once obvious that the sensory elements only appear fragmentarily and sporadically, and hence cannot be essential to the thinking process. The one indispensable factor appears to be composed of those "thought-elements" which do not permit of reduction to anything simpler than themselves. It is not denied that thinking is often accompanied by visual images, inner speech, etc. But as these are not always present they cannot constitute the essence of the processes in question.

This conception forms the kernel of the author's position; the remainder of his paper is occupied with a consideration of the theories hitherto in vogue, and with a detailed analysis of the various types of thought. This portion can hardly be made clear apart from the experimental results with which it is illustrated, and does not lend itself to a short epitome. BERNARD HART.

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2. Clinical Neurology and Psychiatry.

Hysterical Paralysis Agitans [*La Paralysie Agitante Hystérique*]. (*Gaz. des Hôp., November 7th*, 1907.) *Gausset, A.*

But little is known as to the relation between Parkinson's disease and hysteria, as the two are not commonly associated. The author describes in detail an interesting case to demonstrate that the Parkinson syndrome may be closely reproduced, in each particular, in an hysteric. The patient, female, æt. 28, had been developing for seven years the various features of paralysis agitans, tremor, gait, attitude, and subjective sensations of heat. The hysterical nature of the case is revealed by a close examination of each individual symptom, the discovery of stigmata, and a careful search into the previous history. The symptoms were found to date from an attack of facial paralysis during which she was confined to hospital. Next to her bed was a patient suffering from Parkinson's disease, this close association leading to the subconscious development of the symptoms in herself. H. DEVINE.

Chronic Paranoia and Melancholia [*Paranoia Chronique et Melancholie*]. (*Bull. de la Soc. de Méd. Ment. de Belg.*) *Pieters, P.*

Delusional melancholic states are usually described as possessing various features which serve to sharply differentiate them from persecutory paranoia. In melancholia the delusions are said to be secondary to the affective disorders and convergent in character, in paranoia they are primary and divergent. There are many cases, however, in which no such clear distinctions can be drawn and which are difficult to place definitely in either category. In a series of observations the author demonstrates the intimate connection which may exist between the two forms of mental disorder, arriving at the following conclusions, *viz.*:

(1) That melancholia may pass into a chronic and progressive delusional state which merits the name of "secondary paranoia."

(2) That sometimes at the decline of melancholia a temporary paranoic state is observed together with a certain amount of mental enfeeblement.

(3) That in the early phases of paranoia affective disorders are observed which resemble those usually ascribed to anxious melancholia.

(4) That in some cases of anxious melancholia the delusional interpretations which arise bear characters approximating to those of chronic paranoia. H. DEVINE.

A Bulbar Form of General Paralysis (*Vagus syndrome with emotional crises*) [*Forme bulbaire de la paralysie generale* (*Syndrome du vague et d'angoisse*)]. (*Le Prog. Med., April 4th*, 1907.) *Milian.*

Klippel has described two bulbar forms of general paralysis, the glosso-labio-laryngeal and the form with Basedow's syndrome. The latter is scarcely legitimately named, as the bulbar origin of Basedow's disease is far from being proved. The author describes a third form in which bulbar symptoms of a different type are prominent. He quotes a case which, in addition to the classical symptoms of general paralysis, presented functional disorders directly referable to the pneumogastric

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nerve. These were: (*a*) digestive, alternating, excessive, and diminished salivary secretion, extreme flatulence, vomiting and indigestion; (*b*) cardio-vascular, palpitation and tachycardia (pulse 124 standing, 110 lying down); (*c*) pulmonary, dyspnœa (respirations 38) much increased by a horizontal position and accompanied by a feeling of constriction of the throat and intense distress. In addition to this pneumogastric syndrome he suffered from paroxysmal emotional crises, occurring chiefly during the night and awaking him with a start from sleep. Such attacks were identical with those described by Brissaud as occurring in bulbar affections, and consist of a feeling of impending death, intense anxiety, and indefinable insecurity with extreme restlessness. The appearance of the above syndrome indicates a rapidly fatal termination of the case. H. DEVINE.

Have the Forms of General Paresis Altered? (*Journ. Nerv. and Ment. Dis., September*, 1907.) *Clarke, L. P., and Atwood, C. E.*

So far as America is concerned the authors are enabled to speak with authority on this question, so much discussed of recent years by neurologists and alienists, owing to the fact that they have made a careful analysis of 3000 male cases of paresis occurring during the last thirty years.

Referring to the opinions of others on this subject, they point out that Paton states that until recently the expansive form included the majority of cases, but that now only one-tenth to one-fifth are of the expansive type, while the depressed type forms the majority of all cases, and the increase of the demented type is apparent only, but unfortunately his generalisation was based upon comparatively few cases.

On the other hand Brower and Bannister, together with the majority of clinicians, believe that paresis with excitant and exalted delusions is still the typical type. Diefendorf holds that the megalomanic type is becoming less prominent, and now is only encountered in less than one-fourth of the cases. This is also Kraepelin's opinion. The latter considers that the dementing form is now the prevailing type, forming two-fifths of all cases, whilst the depressed form exists in more than one-fourth of the cases. He calls attention to the fact that the neurologist sees more dementing cases of paresis than the alienist on account of the absence in such cases of the grave mental symptoms which necessitate asylum care.

As representative of the English view the authors quote Clouston to the effect that one-third of paresis belongs to the dementing form, and that all the older asylum physicians hold that this form is increasing at the expense of the grandiose type. They, however, remark that not a few English writers fail to diagnosticate paresis in the absence of euphoria during some stage of the disease, a view they believe to be largely due to Mickle's teaching two decades ago.

Italian, French, and Russian alienists make no extended comment upon the modern views of variation of type in paresis, indeed, the authors complain that not many writers of to-day in any country make anything like a genuine attempt to differentiate types or forms of paresis, which makes their task of a wide geographical interpretation necessarily somewhat imperfect. They believe that a considerable

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number of depressed and simple dementing types of paresis were formerly classed as melancholics and dements, and that the more prompt detection of paresis has made it a younger disease; more cases occur between twenty and thirty than formerly and fewer occur over the age of fifty.

In the study of their own cases they divide them into three forms: grandiose, depressed, and simple dementing, and deduce that paresis is essentially a disease in which the grandiose type predominates in about 70 *per cent.* of all cases, the dementing form occurs next in frequency of 20 *per cent.*, while the depressive form is found in but about 10 *per cent.*

A. W. WILCOX.

Neurasthenia and General Paralysis [*Neurastenia e paralisi progressiva*]. (*Riv. Speriment. di Freniat., vol. xxxiii, fasc. ii–iii*, 1907.) *Petrazzani.*

In an exhaustive and judicious discussion of the literature of the subject, the author points out that all the symptomatic indications which have been relied on to establish the differential diagnosis of early general paralysis from ordinary neurasthenia are utterly fallacious; and that cases are constantly occurring in practice where the decision as to which of the two diseases is present has to be left to time. He contends that this view is indisputable for the more familiar signs—the pupillary inequality, the affection of memory, the impairment of speech, etc., and he holds that the value of lumbar puncture is still too uncertain to allow it to be counted as of more definite significance. On this account he puts forward the thesis that the so-called neurastheniform period which so frequently precedes the appearance of the first positive signs of paretic dementia is in fact nothing else but true neurasthenia. He believes that the occurrence of neurasthenic symptoms as a pre-paralytic phase would be found to be extremely frequent, and perhaps constant, if our clinical histories were more complete. Further, since on the one hand the symptomatology of the two diseases shows that in both similar nervous centres are affected, and since, on the other hand, evidence is accumulating to support the theory that both diseases are due to some subacute or chronic intoxication of endogenous or exogenous source, he would lean to the opinion that neurasthenia and general paralysis are intimately related, that in some sort neurasthenia is the curable stage of general paralysis, or rather that it may be such a stage, or may be a milder form—owing either to the lesser virulence of the toxins or to the higher vitality of the nervous elements—of the same disease. The author indicates the practical inferences that would follow from this hypothesis, notably with regard to the importance of prophylaxis and appropriate early treatment of neurasthenia in para-syphilitic and other patients, the vitality of whose nervous elements has become impaired.

W. C. SULLIVAN.

Delirium of Persecution Commencing in the Involutionary Period of Life [*Du délire de persécution survenant à la période involutive de la vie*]. (*Rev. de Psychiat., May*, 1907.) *Marchand and Nouet.*

This paper contains clinical notes of three cases of persecutory delirium presenting certain features different from those met with in

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the general run of cases of délire chronique. The patients, whose ages at the onset of the disease were respectively sixty-three, sixty-four, and sixty-seven years, were all women. Two of them had strong insane taint in the stock, but this had not manifested its influence by any psychic anomalies in earlier life. The unusual features of the three cases were the extreme brevity of the prodromal period, the early appearance of megalomania and the very unstable and fugitive nature of the delusions of exaltation, the presence of some degree of weakness of memory from the start of the disease, and finally the absence of any tendency to violent reaction against the supposed persecutors. The authors attribute these peculiarities to the age of the patients, that is to say, to the special mode of reaction natural to the senile brain; and they emphasise the importance of realising that the psychoses of involution are not exhausted by Kraepelin's three forms—melancholia, presenile delirium of suspicion and senile dementia—but that on the contrary, any form of insanity may be met with at this period, though, of course, taking a distinctive colour from the organic conditions which belong to the senium. W. C. SULLIVAN.

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3. Treatment of Insanity.

Epilepsy and Lumbar Puncture. [*L'Epilepsié et Lombaire Ponction*]. (*Le Prog. Med., May 9th*, 1908.) *Tissot, F.*

At first sight epilepsy is a malady which could, to a large extent, be reduced in severity by lumbar puncture, as the tension of the cerebro-spinal fluid is generally increased, especially at the onset of a fit. Increased tension is, indeed, considered a phenomenon of this stage of epilepsy. In practice, however, lumbar puncture has not given the results hoped for, although this is only what might be expected if one keeps in mind prevalent views and recent histological researches in regard to the causation of epilepsy. The increased tension of the cerebro-spinal fluid is a result, not a cause of the disease, and its signification is of similar value in this respect to the presence of choline in the cerebro-spinal fluid of epileptics.

Tissot gives details of the results of lumbar puncture in six male epileptics. In each case punctures were made frequently, over a long period, and comparisons were made at equal lapses of time before and after their performance. The results have been completely negative. Systematic, large and repeated withdrawals of fluid have not in any way modified the number or quality of the epileptic fits. In conducting the experiments relatively large quantities of cerebro-spinal fluid were taken off—rarely less than 40 c.c., and sometimes the amount withdrawn at a puncture was 60 c.c., and even 70 c.c. It is pointed out that, despite this fact, further than a slight headache, which was quickly dissipated by a rest in bed, evil results seldom followed.

HAMILTON C. MARR.

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The Needs of our Time in respect of the Surgical Treatment of Insane Patients [*Ce que Doit Être à notre Époque La Chirurgie des Aliénés*]. (*Rev. de Psychiat.*, *March*, 1907.) *Picqué.*

The writer's text is Leroy Broun's paper, "Preliminary Report of Gynæcological Surgery in the Manhattan Hospital," of which a brief summary was given in the *Journal of Mental Science* for July, 1907, p. 656. Picqué states that whilst he is in certain respects in agreement with Leroy Broun, his general conception of the surgery of the insane differs so profoundly from that of the American writer that he wishes to explain briefly his own views.

Certain surgeons, says Picqué, have made the extraordinary claim that it is possible to cure insanity by the removal of healthy organs, such as the ovaries or the testicles; or by quite unjustifiable operations on the brain. He feels that it is necessary to protest against such teaching and practice, the only effect of which can be to arrest the progress of surgery for the insane. Now, as formerly, Picqué is convinced that the surgeon is justified in operating on an insane patient only when there exist formal indications for the operation it is proposed to perform. Moreover, his investigations on the subject of post-operative psychoses have shown him that the surgeon, in undertaking an operation in a mentally afflicted patient, must always take into consideration the possible effects of his procedure upon the mental state. In a patient apparently sane, but predisposed to insanity, an operation may induce a post-operative psychosis; and in a patient already insane an operation may lead to an aggravation of the mental disorder. He has long maintained that in the insane and in those predisposed to insanity the question of operation demands consideration, not from the surgeon only, but from the alienist as well.

Picqué then speaks of operation for the relief of displacements of the uterus in cases of mental disorder. Whilst these displacements are frequently met with in the insane, Picqué has found that the patients are apt to have hypochondriacal ideas and functional troubles altogether disproportionate to the degree of displacement. Many of the patients demand operation, but in a number of cases the only result of operation was to aggravate the mental disorder. In these respects the results obtained by Picqué appear to have differed most markedly from those obtained by Leroy Broun, the latter stating that in fifty-one cases in which he operated for the relief of uterine displacement the cure of the mental disorder appeared to be hastened by the operation.

Passing to the consideration of other surgical measures in insane patients, not concerned with the reproductive organs, Picqué points out that improvement may sometimes follow operation in a manner quite indirect. For instance, certain patients—melancholics, for example—need active occupation for the relief of their mental troubles, but this is rendered impossible by some bone or joint lesion. An orthopædic operation, by restoring the use of a limb, may excercise an indisputable, though indirect, action towards the restoration of mental health.

The surgery of the insane, concludes Picqué, concerns itself, not merely with those actually insane and confined in asylums, but also with

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those potentially insane (in whom the surgeon has to consider the possibility of a post-operative psychosis). In those actually insane the surgeon endeavours—(1) to discover the somatic causes of insanity, that is, to determine the relations which may exist between surgical lesions and the diverse forms of mental alienation; (2) to discover the modifications which the mental state may render necessary in surgical therapeutics, as regards the choice of method and the operative technique; (3) to study the pathological varieties of disorder most frequently encountered in insane patients. M. EDEN PAUL.

Occupation-Therapeutics for Patients suffering from Mental Disorder [*Beschäftigungstherapie bei Geisteskranken*]. (*Psychiat. Neurolog. Wochenschr., May 11th and 18th*, 1907.) *Starlinger, J.*

The writer opens by pointing out that it has long been recognised that work is one of the elementary human needs, without which complete mental integrity cannot be secured, and that regular occupation has for many years been recommended and utilised in the treatment of mental disorder. It is only recently, however, that work has been *systematically* employed for therapeutic purposes, and that its immense importance has been recognised as a part of asylum administration. At Mauer-Öhling, the institute of which Starlinger is superintendent, special attention has from the first been devoted to the *employment* of the insane, whether curable or incurable. By occupation, in this relationship, the writer understands any kind of continuous activity, whether useful or not; and the term embraces not only every kind of work, but also all amusements to which no contra-indication exists.

Among useful occupations, that is, *work* in the ordinary sense of the term, must in the first place be enumerated all kinds of agricultural operations; every variety of handicraft can also be utilised, whilst for women every variety of domestic occupation is available. There are properly fitted rooms for drawing, painting, and other artistic occupations. A number of the patients also find employment in the offices of the institution. Finally, there are many special occupations which can be utilised in the asylum, such as letter-carrying, driving, road-making, etc.

Starlinger then passes to consider occupations not directly useful—amusements and games—which are all of a similar nature to those utilised in any large English asylum.

The writer lays stress on the importance of interest and continuity in the occupations allotted.

In the institution under consideration there has never been any disastrous result from the employment of the patients. Among 1,420 patients, as many as one half will be regularly employed. Notwithstanding the great number thus engaged, and notwithstanding the risky nature of many of the occupations, there has during thirty-two years never been a serious accident to a patient. Starlinger gives an interesting table showing the percentage of those suffering from various forms of mental disorder whom it was found possible to keep regularly employed:

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Mental disorder.	Percentage employed.
Congenital idiocy	66·9
Congenital imbecility	99·7
Melancholia	53
Mania	50
Amentia	34
Paranoia	52
Psychopathia periodica	37·8
Dementia	41·8
Paralytic dementia	14·2
Insanity with epilepsy	54·4
Hysterical mental disorders	25
Neurasthenic mental disorders	60
Alcoholism	96

It will be seen that the highest percentage of employable patients is among those suffering from congenital imbecility and from alcoholism. This fact is of economic importance, inasmuch as institutions especially for the reception of congenital imbeciles and of alcoholic patients respectively, could be conducted much less expensively than those for the generality of insane patients, since the majority of the inmates in the former cases can engage in remunerative occupations. To a less extent the same is true of the congenital idiots; whilst in the case of melancholia, mania, paranoia, epilepsy, and neurasthenia, considerably more than half of the patients are employable.

Contrasting male and female patients, there is little difference in the number employable, being 55 *per cent.* in the case of men and 53 *per cent.* in the case of women.

Passing to consider the former occupations of the patients in relation to the possibility of employing them, Starlinger found that the figures were as follows:

Former occupation.	Percentage employed.
Agricultural labourers	65
Factory hands	78
Skilled artisans	55
Brain workers	20
Maid-servants	50

More than one-third of the patients in the institution (567 in all) had previously had no regular occupation; of these one-half were employable. Striking in the above table is the large percentage of factory hands found employable, and the small percentage of brain workers. Of course the occupation followed in the asylum was not necessarily that in which the patient had been engaged prior to admission.

Starlinger then proceeds to discuss the value of "occupation-therapeutics," and summarises his conclusions in the following words: "Herein we have a method of treatment which can be utilised systematically in about 50 *per cent.* of mixed cases of mental disorder. Its results, materially and mentally, generally and individually, are so important that this method is worthy to be placed beside the other principal elements of the modern management of mental disorder—no restraint, and treatment by rest in bed. . . . The greatest curse of

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an asylum," he continues, "is dulness. . . . We have restored the insane their liberty, but to allow our patients to loaf about the asylum is to expose them to the demon of dulness; their freedom must be rendered useful to them by regular occupation." M. EDEN PAUL.

Remarks on the Clinical Effects of Iodine and the Iodides in States of Stupor and Mental Confusion. (*Rev. de Psychiat., November,* 1907.) *Damaye.*

In a number of cases of the type above defined the writer administered by mouth iodide of potassium or a very dilute Gram's solution of iodine, or administered a more concentrated Gram's solution hypodermically. Rapid improvement ensued in most of the patients, which was attributed to the drug thus employed. He considers that iodine acts as a general stimulant and perhaps as an adjuvant in the struggle of the organism against infective states. M. EDEN PAUL.

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4. Sociology.

Insanity among Jews [*Uber die Geistes-Störungen bei den Juden*]. (*Neurol. Cbl., April* 16*th*, 1908.) *Sichel, M.*

It is commonly stated that insanity is specially prevalent among Jews, but usually without proof. Following Pilcz, who has lately investigated the question among the Jews of Vienna, Sichel here studies it in detail from the statistics furnished by the town asylum of the ancient Jewish centre, Frankfurt. He gives his reasons for believing that the results here obtained are fairly free from fallacy.

In 1906 and 1907 there were 1,953 fresh admissions to the asylum; of these 128 (6·5 *per cent.*) were Jews; according to sex there were 4·7 *per cent.* Jews and 10·6 *per cent.* Jewesses. As the proportion of Jews in the general population of Frankfurt is 6·8 *per cent.*, there seems, Sichel believes, no excess of Jews in the asylum. (In Vienna Pilcz found that there was an excess of Jews in the asylum.) When, however, insanity of alcholic origin is excluded, a different result is obtained, and we find 7·6 *per cent.* Jews and 11·5 *per cent.* Jewesses. Among the Jewish insane, it will be seen, there is a notably higher proportion of women; this is stated to be 49 *per cent.*, while among the non-Jews there were only 28 *per cent.* women. (This refers, it must be remembered, to first admissions.) Sichel proceeds to point out that if epileptic as well as alcoholic insanity is left out of consideration, in all other forms there is a definite predominance of Jews over non-Jews. Circular forms of insanity are very common among Jews. General paralysis is also more prevalent among Jews than among non-Jews (12·5 *per cent.* against 8·3 *per cent.*). Hysteria is decidedly more common, and would have been, Sichel remarks, still more pronounced if its occurrence in wealthy Jewish families could be taken into account. Neuropathic heredity was found in 37·3 non-Jews, in 43·7 Jews. As regard criminal offences committed by the Jewish insane, the great majority were, as might be expected, against property; offences against the person were rare. In

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the symptomatology the tendency to ratiocination is the most notable peculiarity, but Sichel agrees with Pilcz that there is no specific *psychosis judaica.*

The paper contains many other interesting details, and a bibliography of the subject is appended. HAVELOCK ELLIS.

Protection against Criminal Lunatics [*Die Unschädlichmachung geisteskranker Verbrecher*]. (*Psychiat. Neurolog. Wochensch., April 11th,* 1908.) *Dr. Risch.*

The article deals with the manner in which insane and weak-minded criminals should be treated, and discusses the use of the term "verminderte Zurechnungsfähigkeit" (mental incapacity, enfeebled power of judgment, insufficient psychical resistance). The author's remarks formed the subject of a leading article in the *Frankfurter Zeitung,* Nr. 262. After pointing out that feeble-minded criminals, notably those who have been committed for indecent assault, are set at large after a shorter or longer term of imprisonment, the author suggests that as soon as mental defect is proved, such cases should at once be committed to asylums. Asylum treatment as compared with prison treatment has these advantages, *viz.*, greater precaution taken to prevent discharge until recovery is certain, and the possibility of treatment of the mental condition. The treatment of criminal cases suggested by the author is rest in bed under observation. On no account must the patient be placed in a single room. This treatment is correct for all feeble-minded persons whose habits make them a danger to the community, alcoholics, epileptics, hysterical and criminal paranoiacs.

HAMILTON C. MARR.

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5. Asylum Reports issued in 1908.

Albany Hospital Report for 1907. *Mosher, J. M.*

The fifth report of Pavilion F of the Albany Hospital is as satisfactory as in previous years. Pavilion F still claims to be unique in the United States as the only example of an attempt, in connection with a general hospital, to treat early mental disease "under the voluntary relation, without commitment as insane."

Nearly twelve hundred cases have now been treated, with most satisfactory results, as evidenced by the statistics.

The most striking paragraph in the report is the condemnation of the use of narcotics. Dr. Mosher says, "the failure to induce natural sleep by artificial means might be regarded as axiomatic were it not that these poisons are in almost universal use," and adds, the first effort in treatment "is toward the elimination of noxious substances."

HENRY RAYNER.

Some English County and Borough Asylums.

Brighton Borough.—The Committee is considering the question of making provision for private patients, in a building apart from the

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main asylum, the charge proposed being about £1 5*s*. Visits have been made to the Hants and Dorsetshire asylums to inspect similar accommodation. As a beginning it is determined to adapt the sanatorium for receiving twenty females. The action of the Committee, in affording help at a reasonable rate to a class that can least afford to bear the cost of insanity, must be highly commended.

We are glad to see that the new statistical tables have been adopted in their entirety. This was only to be expected from the institution whose head in former days (Dr. Lockhart Robertson) was a most active mover in starting the idea of recording in uniform Tables the facts observed in the practice of the asylum. But we could not have reasonably looked for such a conscientious observance of principles as is involved by the recasting of all the averages of the three ways of calculating recovery-rates, as well as of the death-rates, since the beginning of the asylum—fifty years save one. Yet this has been done, though it involved a consideration of every case; and it will always stand to the credit of the staff at Haywards Heath.

We hope, in a later number, to be able to offer some remarks on such sets of new tables as may be available, after there has been time to make a comparison between them.

Carmarthen.—The entry in the visitors' book made by the Commissioners harps on the complaints, made so frequently, about the hardships that are inflicted on the patients in consequence of the "deplorable disagreement" between the authorities who own the asylum. At last the Commissioners allude to their power of reporting to the Home Secretary the fact that the authorities concerned have "failed to provide adequate asylum accommodation." Doubtless some difficulties must exist, though it might be supposed that arbitration would enable these to be surmounted. But, however this may be, there can be no excuse for the members of the committee not carrying out the duty of visitation which, by accepting office, they take on themselves. In October the Commissioners note that two or more visitors have visited only three times in the year, and none since June. It may be said that the discussion of these matters is not the business of any but those directly concerned, but it is not so. We are all concerned in the general advancement of the treatment of the insane. We are bound to assert that the right of patients, jointly and severally, to the best of treatment takes precedence of all other considerations. No one authority should by its conduct weaken this principle, which, we are thankful to say, is almost universally adopted.

London City.—The commissioners advert to the fact that the female private patients help in the garden and some have small plots of their own. The private patients now constitute one half of the total population. A rough analysis of the financial statement suggests that out of the modest sum of £1 1*s*. per week, the staple charge, a very reasonable sum has been reserved by way of rent for the excellent accommodation offered. With regard to statistics:

"The tables which accompany this report have, as in past years, been prepared by Dr. Patterson. Though the greatest care has been taken

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to insure accuracy, yet a word of warning is necessary, that in some at least of these too much stress must not be laid upon the figures given. The position of this Institution is unique. In the case of most public asylums the patients are drawn from a defined locality and are of the same race and social status. At the City of London Mental Hospital the patients are of many nationalities (see Table I) and from the fact that half of the total number are of the private class, the social rank is of varied character. In a public asylum the number of admissions is an index to the amount of insanity occurring in a certain area, in our case the private patients come from all parts. Many of the private patients are sent here from other institutions as being admittedly irrecoverable. Many of the rate-paid class also belong to places other than the City of London. These individuals having wandered into the City have been sent to Stone, and not infrequently when the patient is well on the road to recovery he is transferred to the asylum to which he belongs. During the year, out of 145 admitted, 56 were transferred to other asylums."

Derby Borough.—The asylum is becoming full, indeed it is full, and extension is called for by Dr. Macphail. Such extension would appear not only desirable, but likely to be in the end not very expensive. This is on account of the demand for accommodation for private cases. This demand cannot be met now, inasmuch as the beds hitherto set aside for them have to be used for new pauper cases. We note that the total amount received from private cases in the year was nearly £1,600, while the "excess" in respect of them handed over to the building fund was £700. The great majority of them came from Derby itself. Of the eighty-four admissions, seventeen were re-admissions. Of these thirteen had been discharged recovered. The average interval of relief was nearly four years. There was an abnormally large proportion of acute delirious mania among the admissions. This disease and general paralysis accounted for 40 *per cent.* of the deaths.

Hertfordshire.—This asylum, which but a few years ago was the new one of the day, now requires enlargement, and nearly 250 beds are to be added. Dr. Boycott has devised a system of statistics of his own. This, though lacking the advantage of uniformity with a large amount of material recorded in other asylums, has some merits of its own. He deals in some of the tables only with new cases, that is, from the direct admissions he strains off recurring cases. Congenitals, also, are put on one side. It is somewhat striking that in the first attack cases, which form just about two-thirds of the 812 direct admissions received since the opening of the asylum, the proportion of recoveries is almost identical with that found among the remaining direct cases; this means that the not-first attack cases recovered so frequently that they made up for the incurability of the congenitals.

Dorset County.—Dr. MacDonald adverts to the malign influence of influenza as an ætiological factor. He admitted several cases of adolescent insanity following lingering attacks of this disease. The great prevalence of hereditary predisposition to insanity in his area, in his

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opinion, aided the influenza toxin. The recoveries among the private patients exceeded those among the paupers, as by 54 to 33 *per cent.* Here again Dr. MacDonald traces the influence of heredity, the paupers coming all from a saturated district, while the private cases came from everywhere. Of twenty-eight recoveries among the female patients the exceptional number of fifteen had had previous attacks. The new tables are given in full. Seeing how important a part heredity plays in this county, we suggest that the optional table, dealing with this great question, would be of much service to future inquirers.

Canterbury Borough.—About two-fifths of the patients in this asylum belong to the private class, and they contribute just about half the income. From this it is apparent that they can only produce a surplus that would reasonably represent rent and repairs. This is as it should be. Acute melancholia supplied the large proportion of 30 *per cent.* of the admissions.

Nottingham Borough.—A large bound upwards occurred in the admission-rate during the year—220 against an average of 160. No special reason could be assigned, but Dr. Powell points out that of this total 50 *per cent.* could be written off at once as incurable. On turning to the statistics, which are conducted on the new system, we find no out-standing ætiological factor, heredity, alcohol, and mental stress coming at the top of the list; but all were found in quite moderate proportions. The general paralytics were one-seventh of the total admissions, while of the males they formed over 20 *per cent.* and of the females about 8·50 *per cent.* Apparently none of the 10 female paralytics showed any evidence of either acquired or congenital syphilis, this not being recorded in any of the female admissions, while it appears in 8 out of the 96 male admissions.

We entirely endorse the subjoined remarks. *Salus populi, suprema lex* hits many an individual in the asylum very hard.

"A rather unusually large number of patients made their escape, but they were all re-taken and brought safely back after varying periods of absence of from a few hours to seven days. Most of them were employed on the land or in the workshops, where it is easy for anyone who is so determined to evade the vigilance of the attendant, who, it must be remembered, is always instructed to work with his patients and not to act merely as their keeper.

"I believe it to be for the good of the patients generally to take the risk of occasional escapes, rather than to err on the side of stringency in the matter of giving them employment outside the locked doors of the asylum."

Salop and Montgomery.—We note that the Committee determined to take on themselves all risks under the Compensation Acts and have not insured. There is still much pressure on space. A proposition has been made that "one of the workhouses in the county should be entirely devoted to the purposes of a kind of supplemental asylum." This is a somewhat novel idea in England, and no doubt it will receive much consideration before it is adopted. It should be remembered,

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however, that Salop has for years past been one of the few counties that have availed themselves of the provision for boarding-out patients from the asylum to a workhouse. Apparently this has succeeded to a certain extent, for there is a proposition to send another ten to join those who are already in Forden Workhouse. Dr. Rambaut has adopted the new statistical tables.

Somerset (*Wells*).—Here, too, are used the new tables, and, as far as we have gone, this is the first set that includes the optional heredity table. Dr. Pope appears to have examined the history in this respect of each one of the 173 admissions. In all 44 instances were found. As might be expected, the direct paternal and maternal taint is very strong, though in as many as twelve cases fraternal taint without other evidence was found. In relation to what was said about escapes by Dr. Powell, of Nottingham, one reads much the same here: "Escapes: As regards escapes, seven patients, all males, got away at different times, all of whom were safely brought back. Five of them have since been discharged 'recovered.'" If escapes must occur (as, indeed, they ought to do occasionally), there seems to be scope for art in letting the right cases get away.

Staffordshire (*Cheddleton*).—Of 202 admissions, Dr. Menzies returns 122 as already chronic, while of the balance of 80 recoverable cases 39 were either alcoholic themselves or had alcoholic parentage. In another table he shows that alcohol and syphilis, either separately or jointly, personally or by parentage, entered into ætiology in 112 admissions, or 55·4 *per cent.* of the total admissions. Dr. Menzies has, as noted before, great skill in working out such history, and no doubt he is right in demonstrating as forcibly as he can the danger of evil habits. But we cannot follow him in boldly stating that this proportion of cases were "caused by social vice." That is an exclusion of all other factors which it is impossible to accept, especially in the question of heredity, of alcohol, and syphilis. We imagine that were all his carefully taken histories spread out in the form of the new Table B 8, it would be found that in some of these cases other suspicious factors would have to be considered.

We are glad to find that Dr. Menzies' opinion is that segregation in special wards of phthisical cases has absolutely no ill mental effect. The possibility of depression resulting was one of the matters urged against the procedure. The following remarks on tubercle merit consideration:

"The observations made during 1904 seem to strengthen the view that a large proportion of asylum tubercle is present on admission, but in too early a stage to be suspected; that the conditions of overcrowding and want of fresh air in the wards, together with the well-recognised tendency of the insane towards defective breathing, refusal of food, poor musculature, sedentary habits, and low immunity ratio, tend to light up latent foci and spread infection to other cases: that those who have for some years advocated the maintenance of an artificially high temperature in asylum wards have been helping to promote the spread of tubercle; and that lastly, early tubercle is a not uncommon

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cause of primary adult insanity. I hope to continue these observations during the coming year, and possibly give a practical trial to the serum method of Professor A. E. Wright."

East Sussex.—Curiously enough, in the very next report that we take up for examination the doubt that we expressed above about the exclusive influence of alcohol and syphilis (including their special heredities) is strengthened by the way in which such cases stand in the table mentioned (B. 8), the new tables having been used here this year. Dr. Taylor is very energetic in getting reliable histories, though he only obtains 75 *per cent.* of the new cases. In 135 first-attack cases alcohol was returned as a factor. Heredity is correlated in just half these cases; but it is mental heredity and not alcoholic or syphilitic heredity. We cannot help thinking that in the many cases noted by Dr. Menzies as due to social vice, some must have had mental heredity to thank for their break-down. We may add that in two other of Dr. Taylor's cases senility was also correlated with alcohol. Heredity of insanity has always been a striking point in this district. It was found in 52 and 65 *per cent.* of the admissions as to whom a reliable history was obtained. It relation to this Dr. Taylor writes: "It is, of course, impossible to segregate in an institution or elsewhere patients who have a family history of insanity until the reproductive period is passed, and this being so, it would appear that the only alternative is to devote special care to the education and training of their offspring, who should be encouraged to take up some occupation which would as far as possible keep them free from mental stress, excitement, and temptations. Under the new Education Act the medical examiners should give special attention to these children. Many of them are preternaturally bright and precocious, and it is most important that they should not be unduly forced whilst at school. The fact that a considerable number of the hereditary cases admitted here break down at or before the period of adolescence is conclusive evidence of the necessity of attention to this most important subject." We note that the inmates of the special house for idiot children have responded so well to the training that is undertaken there, that basket and brush making are to be taken in hand. The possibility of teaching some form of occupation to children, who otherwise lead a mischievously idle life, is a very solid justification of the expense entailed in building and furnishing such a department. We believe that this house was one of those that chiefly commended themselves to the S. E. Division when it held its pleasant meeting at Hellingly on the kind invitation of Dr. Taylor. We believe, from what we have heard, that the whole asylum was highly thought of by those who inspected it on that occasion.

Suffolk.—Dr. Whitwell likewise attacks the subject of alcohol, syphilis having but little effect among the factors. He takes a view of its ætiological importance which differs considerably from that held by Dr. Menzies. He considers it on the whole to be considerably over-rated. He gives a map showing the incidence of alcohol in each county, as revealed by the number of convictions for inebriety. Contrasting this

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with a diagram showing the average rate of alcoholic admissions for all England, together with the same for Suffolk by itself, he easily demonstrates the absence of any comparability between the two criteria. Suffolk is one of the least alcoholised counties from the police view, and yet alcohol appears quite up to the average among the assigned causes. A very suggestive reason for doubting the genuineness of any assignment of drink as a cause in a given case is supplied.

"It is difficult for any person not engaged in the actual practice of trying to obtain family histories in the case of mental disease, to realise the elaborate precautions taken by the relatives in very many cases, on the one hand, to conceal anything which appears to them untoward in their family history, and on the other to bring forward, emphasise, and accentuate the delinquencies and sins of the individual in order to exculpate the family, and thus attempt to exclude the possibility of hereditary defect being discovered; thus drink is seized upon with avidity as apparently a convenient and excellent 'cause' in many cases, it which it really is nothing more than an unimportant episode, and the difficulty of analysis in these cases is very great; hence the figures indicating alcohol in excess, as a causative factor, are presumably always in excess of the truth, however carefully examined, as those indicating 'heredity ascertained' are always below the mark."

In binding up the statistics, which are rendered in entire accordance with the new system, Dr. Whitwell has had tables B. 7 and B. 8 placed facing each other, instead of in ordinary sequence. Thus the two can be conveniently read together.

Wiltshire.—We are much surprised to read in the report of this asylum of complaints being made about its management by the responsible officials. Reading the report critically year by year, and critical reading entails a glance at the accounts, we have always looked upon the Devizes Institution as one of the most evenly and efficiently conducted in the country. We were therefore not astonished to find that such complaints have turned out to be quite unfounded. A special committee of inquiry was appointed, and found no ground for any adverse allegation. We are glad to see that, as usual, many deputations of guardians visited and left reports, which are published with those of the asylum officers. One and all write most highly of the management, while some specifically traverse the allegation. The Devizes deputation put the matter really well.

"As to the general management of the Asylum, regarding which so much adverse criticism has been heard of late, we wish to assure the Board that neither by observation nor inquiry could we discover anything to warrant the complaints referred to. We are of opinion that a fuller acquaintance with the facts, the difficulties and demands, in some particulars peculiar to our Asylum, would modify, if not entirely remove, the dissatisfaction which doubtless to a great extent arises from a lack of information."

"The Medical Superintendent, his staff, and all working under them are contending with, and controlling, the worst form of human suffering.

"This they are doing at a tremendous cost of bodily and mental strain, and with the least financial cost consistent with efficiency, and we

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consider they deserve our sympathy rather than the harsh criticism by so-called economists."

A weekly maintenance rate of 9*s.* 2*d.* does not suggest extravagance.

Some English Registered Hospitals.

Barnwood, Gloucester.—Dr. Soutar looks with some caution on causation particulars, as well as on classification, since in both respects two perfectly competent observers may come to different opinions on given sets of circumstances. This is true to a certain point, but undoubtedly there must be some value and some truth in a body of figures collected year by year from many quarters. The law of averages tends to rub out the extreme divergencies. He finds considerable decrease in the recovery-yielding manias and melancholia, while primary dementia occurs with increasing frequency. As Dr. Soutar points out, although we admit, we may say that we know, that heredity plays an immense part in the production of this epochal disease, yet we are far from knowing what may be the cause of one member of a family suffering while all the others, with just the same predisposition, escape.

It is to be noted, with much appreciation, that by devoting part of the surplus of income over expenditure from time to time to the Pension Fund, no less a sum than £48,000 has been accumulated for the purpose. The statistics are according to the new *régime.*

The Warneford, Oxford.—Alcohol as a factor plays a very small part here. No single one among the first-attack cases is shown. One occurred in an old man of seventy-six, who had broken down before and was said to have injured his health by drink in former years. There was no alcohol in any other of the forty admissions. Heredity and prolonged mental stress were the principal factors noted. The new tables have been undertaken.

The Retreat, York.—The new recreation hall and the new residence for Dr. Bedford Pierce are nearly completed, and the former no doubt will prove to be a great boon to the patients. Dr. Pierce gives a glaring instance of the cruelty of practising deception on patients coming for admission. "An elderly lady with advanced heart disease, and who could not have long to live, was induced to leave her home under the impression that she was going to Scarboro' to see the Channel Fleet. On arrival at the Retreat one of my colleagues was asked to give a fictitious name, as she had been told that she would stay with a person of this name. When he declined to do so the relatives who accompanied her suddenly disappeared. This deception pained the patient greatly, and there was no doubt her last days were embittered on this account. She proved to be a most grateful patient but only lived two months after admission, and hardly a day passed without her making some reference to the way in which she had been deceived."

Dr. Pierce returns to the recommendation that he made last year on the advisability of allowing recent and curable cases to be admitted into all asylums, for rich and poor, on no more formality than is required for the treatment in private houses of acute cases, now practised in Scotland. We wish him success, and, though there are many difficulties in the way,

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the Association might well consider the matter seriously in view of the changes recommended by the Commission, which has lately reported. The present would be the best time for taking the matter up warmly, if it is so determined.

A very interesting communication is published in the report. It contains some remarks on the condition of the Retreat, and the treatment used in it, as far back as 1827–1840, by one who is still alive. She was the daughter of the doctor of the time, and lived in the Retreat, thus having exceptional opportunities of seeing how things were done. The principles of administration evidently were as advanced then as they are now. Mrs. Pumphrey, the writer, asks a question that is perhaps nearer an answer than it was when it was put, but is not yet answered by practice as clearly as is desirable. She asks: "May not such establishments grow too large? And is there not still a place for small domestic homes for the residence of those to whom quiet loving care would be a great boon?"

Some Scottish Royal Chartered Asylums.

Edinburgh, Morningside.—The removal of a large quantity of the City patients to Bangour has left space available for private patients on reduced terms. Dr. Clouston has been able to say that, except for a short time, it has been possible to accept every application for private accommodation, whether for the rich or for the less affluent. It is very seldom that such an opportunity arises to help the latter classes, who are altogether too badly provided for throughout the kingdom. We may feel sure that the best advantage will be taken of the chance. It may be expected, at least hoped, that several, who have to place their relatives under treatment, and who would otherwise have to rely on the rates, will make an effort to find the little extra sum needful to preserve their independence. Dr. Clouston has reason to look upon influenza as a disease that has more far-reaching evil effects than any other. He shows that before it arrived in 1890 the elevated and excited types of mental disease easily held place against the melancholic and depressed types. Now this is altered, and in the year under report the reverse condition was found. Alcohol has not been such a frequent factor in production, but it has been relatively more prevalent among the women —a very serious matter.

Of course the impending resignation of Dr. Clouston looms large in the report. The Managers offer a very full and generous appreciation of his many years of work. He himself takes leave in a short but feeling paragraph. We must all wish him years of happy health after his prolonged work, by which so many have benefited, not least the members of the Association.

Glasgow, Gartnavel.—Dr. Oswald will probably accept the term "manic-depressive" without much difficulty.

The type of mental disorder was not so markedly one of melancholia as in former years. The prominent symptom in forty-nine cases was excitement, and in fifty-two depression; but it is becoming year by year more difficult to draw a hard and fast line between conditions of excitement and states of depression, for both may occur in the same patient at different stages of his illness.

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The free reception of voluntary cases has formed an increasingly important feature in the year's work. As many as one-third of the 145 invalids came for treatment and were taken in simply on permission of the Board of Lunacy without certificates or order. The equivalent of this simplicity exists, of course, in England as far as private patients are concerned, but advantage of it is not taken to anything like this extent. It is a pity that the same privilege is not extended to pauper cases and to the entry of private cases into county asylums. These are points that may well be thought of when the new arrangements are made in accordance with the Report of the late Commission. We think that it would be better if, in his statistical tables, Dr. Oswald could separate the facts concerning these voluntary cases from the other admissions. It is true that he shows the recovery-rate among these patients to be greater and the duration shorter than is the case with the certified admissions. But there are many other points—ætiology, callings, and so on—that might be studied with benefit. Dr. Oswald has tried the tent system of treatment, and speaks well of it.

This has been largely practised in some of the large mental hospitals of the United States, and though the climatic conditions of last summer were very unfavourable, the results were sufficiently encouraging to justify the experiment being again made. The accommodation consisted of a large tent pitched in a pleasant part of the grounds, and receiving from eight to ten beds, which were either under shelter of the canvas—though freely exposed to currents of air—or drawn out in front of the tent. The patients were there in bed, or reclining in long wicker chairs, during the whole of the daylight, and while the improvement in some cases might be attributed to the novelty of the surroundings and to the special diet—which was largely vegetarian, with the addition of milk and eggs—it was also conduced to by the rest in bed in the fresh air. The calmative effect of this open-air rest cure on many patients is very marked, and it is often those who, by reason of restlessness in bed indoors, seem unsuitable for it, in whom most benefit results.

Perth, The Murray.—Dr. Urquhart has found it necessary to institute a new practice for parole patients, which is worth noting.

I have thought it well to give each parole patient two cards—one to be kept at hand, and the other to be given to the charge nurse or other responsible authority. As a matter of fact, one of these patients was met in Perth and questioned by an attendant about his increased liberty. He replied that he had my sanction, which was unfortunately untrue, and afterwards caused remorse.

It is a curious fact that, after selling a property sixty years ago in consequence of numbers being reduced, the asylum authorities have taken an opportunity to buy the same back again because the numbers are more than the asylum can contain.

The subjoined note is extracted from the Visiting Commissioner's entry. We do not find any mention of the subject in either the report of the Managers or in that of Dr. Urquhart.

The charitable work of the institution, which, in terms of the Charter, is limited to natives of the County of Perth, continues to be very extensively carried on. Although the average cost of each patient is about £100 per annum, six are maintained at £30, three at £40, one at £45, twenty-one at £52, one at £57, eighteen at £60, one at £63, three at £70, one at £72, and one at £75. Thus fifty-six patients are maintained at rates which are unremunerative. Many of these rates are inclusive of the cost of clothing in addition to that of maintenance. Such a laudable record as the above deserves recognition, not only because it is in itself

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commendable, but in order to direct public attention to the serviceable functions which are being performed by the institution.

Some Irish District Asylums.

Down District.—Dr. Nolan notes that influenza has been very virulent, causing many deaths through an insidious form of pneumonia. Phthisis, on the other hand, is a decreasing factor, thanks to the vigorous steps that have been taken for some years in combating its spread. The same success has attended prophylactic measures devised against colitis, which was a great scourge at one time. Dr. Nolan maintains that in the area a lessened occurrence of tuberculosis means less lunacy, so intimate is the connection of the two diseases in his view. The following remarks on the inspection of asylum laundries appear to be appropriate:

The Asylum Laundry has also been inspected by H.M. Inspector of Laundries. This inspection is necessitated by the extension to asylum laundries of the recent Factories and Workshop Act. While it is, of course, desirable that even more than the usual mechanical safeguards should be in use in asylum laundries, it must be obvious that the general hygienic considerations in an asylum laundry should not require lay inspection, inasmuch as the employment of the patients is regulated with a view to their medical treatment and not for profit.

With a maintenance rate of £22 11*s.* per annum there must be some skill required to justify the comments of the visiting Commissioner.

In this Asylum, certainly due care appears to be taken that the men's clothing and their persons generally are properly looked after. This refers not only to the patients who are able to look after themselves, but also to the helpless and demented. Amongst the women, efforts are made to minister to the natural pride in their personal appearance, and so to maintain habits of self-respect.

Special clothing is supplied for wear on Sundays to both male and female patients, thereby maintaining the customs of their early home life.

In the dining-hall the behaviour of both sexes was excellent. Both men and women entered and took their seats at their respective tables without confusion, and left the hall in proper order. The service of the meal was conducted with due regard to decency and comfort. The dinner was excellent in quality, and appeared sufficient in quantity, and the provisions which I saw could not be found fault with.

Limerick District.—With the exception of heredity, which was found in nearly one quarter of the admissions, fright and nervous shock supply the greatest amount of causation, being returned in eighteen (six male, twelve female) cases out of 113 admissions. This is quite an unusual proportion. Intemperance was found in only ten cases, all male. Active mania accounted for more than two thirds of the admissions, active melancholia accounting for nearly all the rest. In fact only three chronic cases were admitted. General paralysis was entirely absent.

For many years past I have repeatedly drawn attention to the fact that insane prisoners are sent in from the Limerick prison although not belonging to the Asylum District. Act 38 and 39 Vic., Cap. 67, Sec. 10 entails that persons "from and after the expiration of sentence must be regarded and treated in all respects as if admitted to the Asylum as ordinary cases." The local gaol being the prison for the Counties of Clare and North Tipperary, lunatics from these counties committed here, become, on expiration of sentence, chargeable to the City of Limerick. Also, lunatics from these districts "found incapable of pleading" at Assizes are committed. No doubt the cost of maintenance of the latter class is paid for by

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the Executive, but the accommodation required for the Asylum District is thus encroached on. In January last a strong resolution was passed by the Committee calling on other asylums similarly circumstanced to take action in the matter. A copy of the resolution was sent to the affected asylums, the local M.P.'s and the Irish Party. I would again strongly urge on the Committee the necessity of seeking redress from this injustice.

Report of the Inspector-General of the Insane, New South Wales, for the Year 1906.

Dr. Eric Sinclair reports the number of insane under cognisance as 5,525 on December 31st, 1906. These were mostly provided for in the hospitals of the State, but a few were in licensed houses or South Australian hospitals. The increase during the year was 248, while the average annual increase for twenty years was 131. The variation in these numbers from year to year is difficult to explain. The proportion of insane to the general population was 1 to 277. Twenty-four were reported as arrivals from other places to permit of recovery of cost of maintenance. The recovery-rate was 38·11 *per cent.*, while the death-rate was 7·51 *per cent.* There were sixty cases of general paralysis, which is stated to have increased out of proportion to the increase of population. Phthisis caused sixty-one deaths, although the patients have been treated by separation in the open air. It is indicated that suitable buildings for the tuberculous should be erected in the hospitals for the insane.

Dr. Sinclair reports that further provision is being made for non-certifiable patients within the grounds of the Reception House at Darlinghurst. He hopes that the general hospitals of Sydney will, in time, admit such cases to their wards. It is interesting to observe that the Metropolitan Reception House, long ago established by the late Dr. Norton Manning, has fully justified its maintenance, whereas the house for the smaller district of Newcastle, however useful, is necessarily expensive in management. Dr. Sinclair deprecates the detention of these cases in gaols. The scientific work of the department has made progress and good results have been obtained.

The annual cost of the insane has somewhat increased, but the rate per head has been lessened, the weekly charge, deducting collections, having been 8*s.* 8½*d.*

Report on the Hospital for the Insane, South Australia, for the Year 1907.

Dr. Clelland reports on the progress of the Parkside Asylum, which contained private, pauper and criminal patients to the number of 1,019 on December 31st last. That represents an increase of twenty-five during the year. Twelve years have elapsed since the total number was 900, contrasted with four or five years previously required for a similar increase. Dr. Clelland believes that the latent insanity in the community is not increasing, but aged and infirm cases arrive in greater proportion than formerly. The percentage of recoveries reached the satisfactory figure of 47·8 *per cent.*, while the deaths represented 8·5 *per cent.*

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The daily average cost was 1s. 5¾d., the smallest since the year 1900.

We are glad to note that two nurses and one attendant passed the examination of the Lunacy Department, after a three years' course of study and training. The regulations of the Medico-Psychological Association and their examination papers were adopted.

Part IV.—Notes and News.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE sixty-seventh annual meeting of the Medico-Psychological Association was held in London, at 11, Chandos Street, Cavendish Square, W., on Thursday and Friday, July 23rd and 24th, 1908.

The proceedings commenced at 11 a.m., and Dr. P. W. MacDonald, the retiring President, occupied the chair.

Present, the following seventy-six members: S. H. Agar, W. Bevan-Lewis, G. F. Blandford, C. H. Bond, D. Bower, G. M. P. Braine-Hartnell, J. F. Briscoe, L. C. Bruce, J. Carswell, J. Chambers, R. H. Cole, H. Corner, M. Craig, W. R. Dawson, T. Drapes, F. W. Edridge-Green, F. A. Elkins, J. A. Ewan, W. F. Farquharson, C. H. Fennell, N. J. H. Gavin, B. Hart, W. H. Haslett, H. E. Haynes, J. W. Higginson, H. G. Hill, R. D. Hotchkis, T. B. Hyslop, T. Johnstone, Robert Jones, N. T. Kerr, A. B. Kingsford, W. H. C. Macartney, H. C. MacBryan, O. F. M'Carthy, P. W. MacDonald, T. W. McDowall, A. McDougall, H. J. Macevoy, E. D. Macnamara, Mary E. Martin, C. Mercier, J. Merson, W. J. Mickle, J. Middlemass, A. Miller, C. S. Morrison, H. Hayes Newington, F. W. Nutt, D. Orr, M. E. Paul, Bedford Pierce, E. Powell, R. W. Prentice, D. F. Rambaut, H. Rayner, W. Rawes, J. M. Rhodes, G. A. Rorie, R. G. Rows, E. F. Sall, E. H. O. Sankey, G. H. Savage, G. E. Shuttleworth, H. Smalley, R. Percy Smith, R. H. Steen, J. Stewart, R. J. Stilwell, W. H. B. Stoddart, D. G. Thomson, A. R. Turnbull, A. R. Urquhart, F. Watson, T. O. Wood, D. Yellowlees.

Visitors: Drs. H. B. Donkin and G. H. Martin (San Francisco).

Apologies for absence were received from: Drs. B. J. Alcock, J. S. Bolton, F. StJ. Bullen, H. Clarke, H. G. Cribb, G. Dickson, R. L. Donaldson, C. C. Easterbrook, G. S. Elliot, C. T. Ewart, F. C. Gayton, E. Goodall, J. T. Hingston, W. W. Ireland, G. E. Mould, H. C. Marr, M. J. Nolan, W. A. Parker, E. C. Rogers, H. Roscoe, P. C. Smith, W. R. Watson, H. B. Wilkinson.

The PRESIDENT (Dr. MACDONALD) said the minutes of the last annual meeting had already appeared in the *Journal of Mental Science*, and it might be the wish of the meeting to take them as read. This was agreed to, and they were duly signed.

The next business was the *election of Officers and Council for the coming year*. He nominated as scrutineers for the purposes of the ballot Dr. Turnbull, Dr. Middlemass, Dr. Steen, and Dr. Dawson. In regard to the two representative members of Council from the Irish Division, it was found that Dr. Nolan and Dr. Drapes had to retire owing to their having served three years. The Irish Division wished to substitute for those two gentlemen Dr. W. Graham and Dr. James J. Fitzgerald.

Agreed to.

On the agenda, under the heading "Examiners for the Nursing Certificate," Dr. Turnbull's name appeared without the qualifying words "for one year." Owing to the lamented death of Dr. Conolly Norman the vacancy had to be filled

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for one year, and the Educational Committee asked Dr. Turnbull if he would carry out that somewhat thankless task for another year. Dr. Turnbull kindly consented.

Agreed.

The PRESIDENT stated that the scrutineers had announced that the ballot had been unanimous in favour of the officers and members of Council whose names appeared on the ballot paper.

APPOINTMENT OF AUDITORS.

The PRESIDENT said it was necessary for the meeting to appoint two auditors for next year. The gentlemen at present filling that office were Dr. Hyslop and Dr. Thomson. The former retired, and the latter was promoted. The gentleman appointed should be resident somewhere near London.

Dr. CRAIG proposed Dr. Steen.

Dr. THOMSON seconded, and it was agreed to

ELECTION OF STANDING COMMITTEES.

Parliamentary Committee.—The PRESIDENT then put the list of names to form the Parliamentary Committee. It was carried as shown on the agenda, with the addition of the names of Drs. James Chambers and P. T. Hughes.

Educational Committee.—This list of names, as shown on the agenda, was carried with the addition of the names of Drs. James Chambers, James Middlemass, D. Orr, R. G. Rows and D. G. Thomson.

Dr. YELLOWLEES drew attention to the size of these Committees, which he stated he believed to be too large and very unwieldy. He thought that a man who did not attend their meetings ought not to remain on the list.

Dr. BRISCOE supported this view.

The PRESIDENT said that no doubt the remarks which had been made would come under the cognisance of the Nominations Committee next year, and possibly they would deal with the matter in a more ruthless fashion.

Library Committee.—The four members whose names appeared on the agenda were elected to form this Committee.

THE TREASURER'S REPORT.

The TREASURER said that his Report had been sent round. He regretted that the last year was not such a good one, financially, as the year before. That was partly due to the shrinkage of receipts from examination fees, but chiefly in the miscellaneous expenditure. The major part of the increase had gone in the preparation of the lithographic stones for printing the sets of tables which had been circulated round the asylums in connection with the new statistical scheme. In the present year there was nothing to cause any particular expense. And this year, as shown by the return he had just received from the Registrar, the number of candidates for examination had gone up considerably, and the income would no doubt increase. Every now and then he had made it his custom to give a statement as to the condition of the Gaskell Prize Fund in addition to his ordinary Treasurer's Account. That fund was now assuming very large proportions. It began with £1,000, contributed by the friends of Mr. Gaskell, Commissioner. Those friends subsequently gave another £300, making it up to £1,300 odd of stock. Since then, out of accumulations, the Association had invested another £300, and there was now in the hands of the Association a further sum of £167 19*s.* 8*d.*, which would have to be transferred to the Fund at some later time, also a sum of some £6 as deposit account. That went on from year to year. To-day the Council had been informed there was again no candidate for the prize provided by the Fund. At times consideration had been given to the possibility of spending the money; but the terms of the Trust Deed were rather strict, and it did not seem possible, without going to Court, to get the provisions altered. So he supposed the Association must go on laying the money up for no good purpose until such time as the Council took the matter into more serious consideration and appointed a committee to decide whether it was worth while to go to the Court, with the

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THE MEDICO-PSYCHOLOGICAL ASSOCIATION.—For the Year 1907.

REVENUE ACCOUNT—January 1st to December 31st, 1907.

1906. £ s. d.	Dr. Expenditure.	£ s. d.	£ s. d.
554 11 2	To Journal—Printing, Publishing, Engraving, Advertising, and Postage	564 14 11	
174 11 3	,, Examinations, Association Prizes, and Clerical Assistance to Registrar	126 17 11	
43 4 1	,, Petty Disbursements, Stationery, Postages, etc.	36 9 10	
112 16 2	,, Annual, General, and Divisional Meetings ...	132 16 1	
56 0 0	,, Rent of Premises at 11, Chandos Street, care of Office, etc.	56 0 0	
6 6 0	,, Audit and Clerical Assistance	6 6 0	
133 17 9	,, Miscellaneous	181 13 8	
			1104 18 5
120 0 2	Balance		27 0 1
£1201 6 7			£1131 18 6

Income.	£ s. d.	£ s. d.	£ s. d.	1906. £ s. d.
By Dividends		29 3 2		20 0 2
,, Sale of Journal	195 0 0			
,, ,, Handbook	32 2 4			
,, Advertisements	34 8 6			
		261 10 10		285 5 11
,, Fees, Certificates of Psychological Medicine ...	12 12 0			
,, ,, Certificates of Proficiency in Nursing ...	123 0 6			
		135 12 6		192 10 6
,, Subscriptions		705 12 0		703 10 0
			£1131 18 6	£1201 6 7

BALANCE-SHEET—December 31st, 1907.

1906. £ s. d.	Liabilities.		£ s. d.	£ s. d.
14 14 1	Journal Account	balance	0 8 3	
7 1 3	Petty Disbursements Account ...	do.	10 10 4	
22 16 10	Examinations Account	do.	35 0 4	
6 10 11	Meetings Account	do.	8 18 3	
61 14 7	Gaskell Fund		117 5 3	
14 0 0	Rent Account		14 0 0	
65 9 0	Miscellaneous		42 16 5	
10 5 4	Library		20 18 8	
				249 17 6
	Balance:—Balance on January 1st		1569 18 6	
	Add: Balance of Revenue Account		27 0 1	
			1596 1 7	
	Deduct: Decrease in value of:			
	New Zealand Stock ...	3 2 2		
	Do. do. (Hack Tuke Memorial)	3 4 2		
	Victoria Stock, 3 *per cent.* ...	3 12 5		
	Do. do. 3½ *per cent.* ...	3 19 0		
	Manchester Stock, 3 *per cent.*	9 12 6		
	Subscriptions written off ...	32 11 0		
			56 1 3	
1569 18 6				1540 17 4
£1772 10 6				£1790 14 10

Assets.	£ s. d.	£ s. d.	1906. £ s. d.
Lloyd's Bank:—Bankers		284 17 8	438 4 9
New Zealand Stock, 3½ *per cent.*, value at this date ...	307 17 1		310 19 3
Do. do. (Hack Tuke Memorial)	317 10 6		320 14 8
Victoria Stock, 3 *per cent.*	88 7 5		91 19 10
Do. 3½ per cent.	190 11 3		194 10 3
Manchester Corporation Stock, 3 *per cent.*	190 7 6		200 0 0
New South Wales Stock, 3½ *per cent.*	200 0 0		0 0 0
		1294 13 9	
Sales Account	balance	47 4 11	52 4 3
Subscriptions Account	do.	126 10 6	136 10 0
Fees Account	do.	37 8 0	27 7 6
		£1790 14 10	£1772 10 6

R. WOODINGTON, F.C.A.

H. HAYES NEWINGTON, Treasurer.

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THE GASKELL MEMORIAL FUND.

1903.

	£	s.	d.		£	s.	d.
Examination fees (1902) ...	4	4	0	July, Balance	94	3	4
Do. (1903) ...	4	14	0				
Dec. 31st, Balance	85	5	4				
	£94	3	4		£94	3	4

1904.

July, Examination fees ...	4	4	0	Jan. 1st, Balance	85	5	4
Dec. 31st, Balance ...	127	1	6	Dividends	46	0	2
	£131	5	6		£131	5	6

1905.

March 30th, by purchase of N. S. Wales 3 *per cent.* Stock	300	18	0	Jan. 1st, Balance	127	1	6
				Dividends	50	14	5
				Cash from Deposit Account	175	0	0
Dec. 31st, Balance ...	51	17	11				
	£352	15	11		£352	15	11

1906.

Aug., Prize (Dr. Rutherford)	35	0	0	Jan. 1st, Balance	51	17	11
				Dividends	55	10	8
Examination Fees... ...	4	4	0				
Medal	5	5	0				
Printers	1	5	0				
Dec. 31st, Balance ...	61	14	7				
	£107	8	7		£107	8	7

1907.

Dec. 31st, Balance ...	117	5	3	Jan. 1st, Balance	61	14	7
				Dividends	55	10	8
	£117	5	3		£117	5	3

1908.

July 23rd, Balance ...	167	19	8	Jan. 1st, Balance	117	5	3
				Dividends	50	14	5
	£167	19	8		£167	19	8

Since the Annual Meeting £150 of the balance, reported above, has been placed in the Deposit Account.

The funds of the Gaskell Memorial Trust are represented on October 1st, 1908, by—

New Zealand 3½ *per cent.* Stock	£1380	14	3
New South Wales 3 *per cent.* Stock	337	11	0
Deposit Account at Bank	156	1	5
In the hands of the Association	17	19	8

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sanction of the friends of Mr. Gaskell, for permission to adopt some more favourable scheme. He laid the Report on the table, also the account books and bank pass book, in case any member wished to inspect them.

Dr. CLOUSTON asked whether it would be competent for him to move a resolution to the effect that the Educational Committee be requested to take into consideration the question of the re-arrangement of the terms on which the Gaskell Prize was at present awarded.

The PRESIDENT said it would be quite in order.

Dr. CLOUSTON said he desired a recommendation on the subject to go from that meeting to the Council. He saw no object in delaying the matter indefinitely. Apparently there was at present a large sum of money of the Fund unused, and at the Council there had ensued a discussion on a means of exciting interest and stimulating assistant medical officers of asylums to do more work than some of them at present seemed inclined to do. As there could be no reason for delay, he moved "That the Educational Committee be requested to consider, and if thought fit, bring forward a scheme in regard to, the Gaskell Prize Fund." He was willing to put the resolution into the terms most likely to result in carrying out what was desired.

Dr. STEWART seconded, and it was carried.

Dr. CRAIG asked whether those terms would empower the Committee to go to counsel for opinion and guidance. That was really the difficulty, because nothing could be done in the matter without legal advice. It was necessary for the Educational Committee to receive authority to obtain legal advice.

Dr. STEWART suggested that Dr. Clouston should add to his motion the words "With power to consult counsel, if necessary."

Dr. CRAIG said he thought that was the Treasurer's view also.

Dr. CLOUSTON said he would be very happy to accept the suggestion.

The resolution, with this addition, was then put and carried.

AUDITORS' REPORT.

Dr. D. G. THOMSON said his colleague (Dr. Hyslop) and himself spent some time in going over the accounts, and found them to correspond with the statement which had been presented by the Treasurer.

THE REPORT OF THE EDITORS.

The Editors have no special matters to report in connection with the publication of the Journal beyond the fact of a further increase in the number of copies printed to 1100. This increase was considered to be desirable from the advance in the number of members, the greater number of changes in membership, and some indication of a greater demand for back numbers, the stock of back numbers for some years having been exhausted.

The grievous loss sustained by the Editors by the death of Dr. Conolly Norman has already been dwelt on in the Journal. No adequate expression of our appreciation of Dr. Norman, as a co-worker or of his services to this Journal, could be conveyed within the limits of this report.

The Editors have again to express their thanks to Dr. Lord for his valuable aid in connection with the "Epitome," which is yearly increasing in interest.

HENRY RAYNER.
A. R. URQUHART.
JAMES CHAMBERS.

Dr. URQUHART, in the temporary absence of Dr. Rayner, submitted the Editors' Report. He moved its adoption, which was seconded by Dr. CRAIG and carried.

REPORTS OF THE THREE STANDING COMMITTEES.

REPORT OF EDUCATIONAL COMMITTEE.

The PRESIDENT reminded the members that this report had been circulated among them, but he believed Dr. Craig desired to make a correction and some additions.

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Report of the Principal Work of the Educational Committee since the Annual Meeting, 1907.

The following is a brief account of the work done by this Committee up to, and including, the last May meeting:

The Educational Committee have held the usual number of meetings during the year, and have had several important matters under consideration. Amongst other subjects the following have been dealt with:

They make the following recommendation *re* the Nursing Certificate Examination:

Recommendation *re* Nursing Certificate, to be Confirmed by the Annual Meeting.

At the Annual Meeting, 1906, the Educational Committee made a proposal that the Nursing Examination be divided into two parts, to be taken at different times in the period of training. The idea of such a division was agreed to in principle, and the scheme was referred back to the Educational Committee for elaboration and detail. The Educational Committee, in November, 1906, re-appointed the original Sub-Committee, and gave it instructions to draw out a scheme as requested by the Annual Meeting.

The Sub-Committee made their report, and it was printed and privately issued to all members of the Educational Committee. The report was fully considered by the Educational Committee at their meetings in May, July and November, 1907, and in May, 1908, and several important amendments were made.

It is recommended:

(*a*) That a candidate shall be eligible for the First Examination after twelve months of training and attendance on one course of at least twelve lectures.

(*b*) That a candidate who has passed the First Examination shall not be eligible for the Final Examination until after completing three full years of training and having attended three courses of lectures of not less than twelve in each course, and that at least one course of lectures shall be taken subsequently to passing the First Examination.

(*c*) Any candidate who has been referred back in either of the examinations shall not be admitted for re-examination until he or she has attended a further course of practical or other instruction.

(*d*) That a candidate for the First Examination shall be examined in: (1) Anatomy and Physiology; (2) First Aid.

(*e*) That a candidate for the Final Examination shall be examined in: (1) Bodily Diseases and Disorders; (2) Sick Nursing and Hygiene; (3) Mental Diseases and Mental Nursing.

(*f*) That each examination consist of a written and *vivâ voce* portion.

(*g*) That the *vivâ voce* in each examination be divided into an Oral and a Practical portion; and that the *vivâ voce* examination should be not less than ten minutes in length. This should be extended, if necessary, in order to make it thorough. Candidates must show a competent knowledge in both the Oral and the Practical portions.

(*h*) That the Written and the *vivâ voce* portions of the Examination be regarded as separate, and candidates must satisfy the Examiners in both.

The Educational Committee consider that the present system of reporting candidates as "passed" or "failed" in both the *vivâ voce* and the Written portions of the Examination is the only practical way of marking. Nevertheless, for the instruction of the Examiners of the Written and *vivâ voce* portions, it should be understood that no candidate should be reported to the Registrar as "passed" unless the candidate has obtained the equivalent of 50 *per cent.* in general accuracy in answering in each branch.

The Educational Committee consider that the present style of questions is satisfactory, but it is decided that no question in the written portion of the examination should be on any subject that is not referred to in the Handbook, and that the questions should be framed in such a way as to bring out whether or not that candidate has a *proper* understanding of the subject asked.

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The Educational Committee recommend that in Rule 9, sub-section (*g*), of the Nursing Rules the words "a senior" be deleted and replaced by "an," and in the following line the word "five" be replaced by "three"; so that the Rule will run as follows:

"The Coadjutor shall be the present or past Superintendent, or the Acting Superintendent of another Institution, or in the event of the inability or refusal of any of these to act, an Assistant Medical Officer of not less than three years' standing who is a member of the Medico-Psychological Association, and in all cases must be approved by the President of the Association."

It is further recommended that these Rules be not put into force until the revised edition of the Handbook is published.

It is recommended that all candidates coming up for re-examination for the Nursing Certificate should pay a fee of 5*s*., as at the First Examination.

The whole subject of the remuneration of the Examiners for the Nursing and the Professional Certificate has been under review, and important changes are recommended. It is considered advisable that the Examiners for the Nursing Certificate should be paid a fixed sum, and not per paper examined, as is the case at present; and it is recommended that this sum be Twenty Guineas per annum for each Examiner.

It is recommended that for the Professional Examination each Examiner shall receive Two Guineas per examination in which he takes part.

The Sub-committee, who have been preparing the new Handbook, have made good progress with their work, and most of the book is already in print.

A Sub-committee has been sitting to consider "the advantages arising from examining candidates, in the Final Examination for medical degrees, in mental diseases." No report has yet been received, but it is hoped that it will be ready to bring before the Annual Meeting.

It has been decided by the Council on the recommendation of the Educational Committee to publish, in pamphlet form for sale, one hundred questions selected from the Nursing Examination papers set during recent years.

The Registrar reported that 148 candidates entered for the Nursing Examination in November, 1907, and that 100 passed.

The percentage of failures in the Written portion of the Examination was 18 *per cent*., and for the Practical portion 9 *per cent*.

The Registrar reported that 669 candidates entered for the Nursing Examination in May, 1908.

The percentage of failures in the Written portion of the Examination was 22 *per cent*., and for the Practical portion 18 *per cent*.

(Signed) CHARLES MERCIER, *Chairman*.
MAURICE CRAIG, *Hon. Sec*.

Dr. CRAIG said that he desired that the paragraph dealing with the work of the Committee upon criminal procedure should be deleted. The latter was a special committee and their report would appear separately. He added that the Registrar reported that 669 candidates presented themselves for the nursing examination in May last, and of this number 434 passed, 223 failed, and 12 withdrew (66 *per cent*. passed, 34 *per cent*. failed). He reported that there were 8520 certificates on the register. Eight candidates entered for the medico-psychological certificate, all of whom passed. One essay was received for the bronze medal, and it has been awarded to Dr. Carlisle Howard, Assistant-Physician Perth District Asylum.

The Handbook Sub-committee handed in the following report, which was received and adopted:

"The Handbook Sub-committee regrets that it cannot lay the completed work on the table, but it is able to report that the whole of it is in print with one or two minor exceptions, such as the index. The Sub-committee have used the funds allowed to it by the Council in order to have a literary revision and an index prepared, and, further, an authoritative opinion has been obtained on some debatable points."

He concluded by moving the adoption of the report.

Dr. MILSOM RHODES seconded.

Dr. G. THOMSON asked what was to be inferred from paragraph 5, page 3, of the Report: *A sub-committee has been sitting to consider "the advantages arising*

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from examining candidates in the final examination for medical degrees in mental diseases." No report has yet been received, but it is hoped that it will be ready to bring before the annual meeting. Was it intended to bring that before the meeting now?

Dr. CRAIG replied that that matter had been considered. The report which had been sent in by the sub-committee was a very excellent one, but the content of it was regarded as of such importance that the Educational Committee wished to consider it further before making any recommendation upon it.

The PRESIDENT asked for any further comments, and, as there were none, he put the motion for the adoption of the Report, and it was carried.

PARLIAMENTARY COMMITTEE.

Report for the Year 1907–1908.

The Parliamentary Committee has met four times this year. It has been chiefly occupied in trying to advance the appointment of a "Minister of Public Health," but its endeavours have met with little success at present. The British Medical Association, and all examining bodies in England, Scotland, and Wales, have been communicated with, but none have exhibited any disposition to act in the matter.

The Commissioners' circular relating to the Factory Acts was also considered and reported on to the Council at the May meeting.

(Signed) DAVID BOWER, *Chairmnn.*

June 20th, 1908. H. WOLSELEY-LEWIS, *Secretary.*

The PRESIDENT said that a meeting of this Committee had been held the previous day, but he was not sure whether there was anything to add to this report, which had already been circulated.

Dr. BOND said there was one other point which arose at the Parliamentary Committee's meeting of the previous day, namely, consideration of the present position of pensions. The matter had been the subject of correspondence between the Parliamentary Committee and the Asylum Workers Association, and allusion was made to certain asylum officials who had recently, on taking up their appointments, been asked to sign an undertaking that they waived their claim to a pension. A sub-committee had been appointed by the Parliamentary Committee to consider how far that was legal.

Dr. BRISCOE said he desired to point out an error in the Parliamentary Committee's report. He saw it was stated that the British Medical Association had not exhibited any disposition to act in the matter concerning the appointment of a Ministry of Public Health. The fact was that the British Medical Association took it up in 1904, and it was discussed at meetings of the Southern Branch. He was Chairman of the Winchester Division of the Southern Branch, and he naturally took a good deal of interest in the subject. He had heard from the Secretary of the British Medical Association that that Association leaned very strongly towards the appointment of a Public Health Officer. He would like to read to the meeting a very short minute of the British Medical Association ——

The PRESIDENT: What is it you complain of in this report?

Dr. BRISCOE: It is incorrect.

The PRESIDENT: In what respect is it incorrect?

Dr. BRISCOE stated it was incorrect in saying that the British Medical Association had not exhibited any disposition to act in the matter. He did not remember having received any communication from the Medico-Psychological Association on the matter, although Dr. Bower called upon him once, and he explained the matter to him. There was a memorandum published by the British Medical Association, and if the President or the Secretary of the Medico-Psychological Association would write for a copy it would be sent. It stated: "It is therefore considered that the co-ordination and central administration concerning matters of public health would best be effected by entrusting all duties of the kind to the Local Government Board." He apologised for interrupting.

The PRESIDENT said that was the very point which he thought Dr. Briscoe was coming to. The British Medical Association did not view the matter from the same standpoint as did their own Association. The former wished to place it under the Local Government Board, but their own Association asked for a special Minister of Public Health, quite outside the Local Government Board.

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Report of Library Committee.

This was as follows:

Books Added.

Barr.—*Mental Defectives.* 1905.
Clouston.—*Hygiene of Mind.* 1906. (Presented by Author.)
Jones, R.—*Mental Nursing.* 1908. (Presented by Author.)
Report of the Royal Commission on the Feeble-minded. 1908.
Tredgold, A. F.—*Mental Deficiency.* 1908. (Presented.)
Wilson.—*Education, Personality, and Crime.* 1908.
Ziehen.—*Psychiatrè.* 1908.

Also the usual journals, exchanges, and review copies sent here by the editors of *The Journal of Mental Science.*

The Library has been well used both for reference and for home reading.

H. Rayner.
R. H. Cole.
T. Outterson Wood.

The report was adopted.

Report of the Council.

The number of members—ordinary, honorary, and corresponding—on December 31st, 1907, was 690, which is an increase of five as compared with the corresponding figure for the previous year.

The following table shows the membership during the past decade:

Members.	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Ordinary . .	540	550	568	580	586	597	620	641	638	645
Honorary . .	38	36	38	37	37	36	35	32	32	30
Corresponding .	12	12	10	11	12	12	15	15	15	15
Total . .	590	598	616	628	635	645	670	688	685	690

From this it will be seen that the ordinary membership has increased by seven, the honorary members are less by two, while the number of corresponding members remains unchanged.

The number of new members continues very satisfactory, as many as thirty-nine having been registered during last year, while the names of two former members were replaced.

The Council regrets to have to chronicle the deaths of three honorary members—Dr. Charles Fèrè, Sir William T. Gairdner, K.C.B., and Dr. A. E. MacDonald, and of four ordinary members—Drs. J. Forsyth, A. T. Abbot, F. R. Dickson, and R. A. L. Graham.

The usual quarterly meetings were held in February, May, and November. That in February was, by the courtesy of Dr. Miller, held at Warwick County Asylum. The standard of the papers read has been well maintained and the attendance unusually good.

Eleven Divisional meetings were held.

The possibility of a change in the future accommodation of the Association and its library was again reported upon at the last annual meeting. The special Committee dealing with this matter was re-appointed, with power to negotiate. Since then no action has been necessary.

The Workmen's Compensation Act Committee at the last annual meeting issued a valuable report embodying numerous points of useful information.

Following the action against a member of the Association, a Criminal Procedure

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Committee was appointed last July to consider the present practice in relation to the question of the alleged insanity in accused persons and other allied matters. Its three sub-committees have held meetings, and the Committee, as a whole, are reporting to the present annual meeting.

The Factory and Workshops Act of 1907 was the subject of discussion at the February meeting, and a resolution was passed to the effect that in the opinion of the Association it was undesirable that asylums should be brought under the provisions of the Factory Acts.

The Educational Committee, under the chairmanship of Dr. Mercier, presents its report. Its work, which has included the revision of the regulation for the nursing certificate, has been very heavy.

The Parliamentary Committee, now under the chairmanship of Dr. Bower—Dr. Ernest White having resigned after three years' service as chairman—also presents its report.

The question of the most convenient week-day in which certain of the Association's meetings should be held has been under consideration, and after a general referendum it was resolved that the majority of the meetings, including the May meeting, should be held on Tuesdays. In this connection the thanks of the Association are due to the Treasurer for much time spent in endeavouring to secure better terms from the railway companies.

The Journal continues much appreciated and its circulation satisfactory. Its editorship has sustained a severe loss in the lamented death of Dr. Conolly Norman.

The Library Committee's useful work continues.

The finances of the Association remain in a sound position under the able and vigilant administration of the Treasurer.

The number of entries for the nursing certificate was again slightly less than the past two years. But the Registrar's duties continue very heavy, and as heretofore, to him, to the Divisional Secretaries (who have assiduously promoted the success of their respective divisions), and other officers, the hearty thanks of the Association are due.

The General Secretary read the report and moved its adoption.

Dr. Stewart said he had much pleasure in seconding the motion for adoption, and took the opportunity of remarking how great was the obligation which ordinary members of the Association were under to the Council and the Committees for the work they had done. It was obvious that a good deal of time must be spent in connection with all the details, and those who did not work on those Committees perhaps did not take sufficient cognisance of the self-sacrifice shown by the members of those Committees. He wished to allude to one matter which had been brought to his notice by some members who had not the courage of their convictions. He had. There were many men, like himself, who had long been members of the Association, and having contributed something like forty guineas to the Association by paying their guinea each year, some consideration should be given by the Council to the question of whether a life-membership should not be established as was the case in other associations, such as the Medical Society of London. He asked that the Council would consider the suggestion before the next annual meeting.

The report was then put, and agreed to.

REPORTS OF SPECIAL COMMITTEES.

Report of Criminal and Civil Procedure Sub-Committee.

The respective Sub-Committees for Great Britain and Ireland appointed *re* criminal and civil procedure have held several meetings and have collected together much valuable material, but it has been impossible yet to formulate any definite opinions or to make any recommendations. It is therefore desirable that these Sub-Committees should be re-appointed with power to co-opt to their numbers. They further ask that a sum not exceeding £25 should be granted to meet any expenses that they may incur in the matter of printing and circulating reports, etc.

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Dr. CRAIG submitted this report, and moved that it be received and adopted.

Dr. MILSOM RHODES seconded the motion, and drew attention to a flagrant case which took place last week in the Leeds murder case. A man killed a woman by chopping her head off and was surprised in the act of cutting off her right arm, another man threatening to kill him with a crowbar if he did not desist. The murderer then turned quietly round, lit a cigarette, and began smoking it. He then picked up the woman's corsets and said he could sell them for half-a-crown, picked up her umbrella and said it would fetch 7*s.* 6*d.* At the trial three mental experts were called, and they said he was insane. Yet the jury found—and the judge appeared to agree with them—that he was guilty of wilful murder, and the man was now lying under sentence of death. It was monstrous that such a thing should be possible in this country at the present time, and he urged upon the Committee not only to consider what they were doing, but to go to the Home Office to see if some alteration could be made. The Lunacy Commissioners had drawn attention to it, as had several other people, and he declared that our criminal law as it at present stood was a disgrace to the Statute Book.

Dr. URQUHART, in supporting the motion, said he would like to explain in a few words the actual state of matters. Some ten years ago the Association had a very important committee to consider that question, and after two years' work and long debates the net result was that, although they did not approve of the state of the law, they had, at that time, no suggestion to make for its amendment. But in the course of last year another committee was appointed, and it was thought well to have it representative of all three Divisions of the Kingdom, as the law was so different in those Divisions. After a year's work they found themselves unable to report at great length to-day, and they had requested re-appointment for another year, before those very important and intricate legal matters could be fully considered.

The report was then put and adopted.

MOTIONS INVOLVING THE EXPENDITURE OF FUNDS.

The PRESIDENT said he had been informed by the Treasurer that there were no such motions.

FIXING DATES OF ANNUAL AND QUARTERLY MEETINGS.

The PRESIDENT said a suggestion had been made that the meeting provisionally fixed for Tuesday, November 24th, should be altered to Thursday, November 19th. That came before the Council, and they recommended the alteration. This and the other dates were then agreed to.

Dr. THOMSON said that arising out of Section F, fixing the date of the annual meeting, he would like to offer a suggestion.

The PRESIDENT said that was usually left to the Council.

Dr. THOMSON said he would like to suggest that it be an instruction to the Council that, if possible, next year the meetings of the Association should not clash with the opening meeting or with other meetings of the British Medical Association. Not being Jekyll and Hyde, he could not be in two places to-morrow, and therefore he felt a great sense of disappointment that he could not attend both the present annual meeting and the meeting of the British Medical Association. He put it forward as a suggestion to the Council.

The PRESIDENT said he could sympathise with Dr. Thomson, but unfortunately it arose owing to the fact that the representative meeting of the British Medical Association fixed up two or three days more than it used to do for its annual meeting. So the Medico-Psychological Association would have to go either backwards or forwards ten days if its annual meeting was to escape that of the other Association.

Dr. THOMSON said it needed only an alteration of one day.

The PRESIDENT said he felt sure that the President-elect, when he succeeded to the office, would bear the suggestion in mind.

Dr. THOMSON thanked the President, remarking that that was all he wished.

Dr. MERCIER said he was somewhat responsible for the situation, owing to an attempt to get particular speakers for the dinner.

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Ballot for New Members.

A ballot was then taken for the following ten gentlemen who had been proposed for election as members of the Association. They were unanimously elected:—Anderson, James Richard Sunner, M.B., Ch.B.Glasg., Senior Assistant Medical Officer, Cumberland and Westmorland Asylum, Carlisle (proposed by W. F. Farquharson, G. F. Barham, and C. Hubert Bond); Blandy, Gurth Swinnerton, M.B., Ch.B.Edin., Assistant Medical Officer, Middlesex County Asylum, Napsbury, Herts (proposed by T. O'C. Donelan, R. H. Steen, and C. Hubert Bond); Ellison, Arthur, M.R.C.S., L.R.C.P.Lond., Deputy Medical Officer, H.M. Prison, Leeds; 120, Domestic Street, Holbeck, Leeds (proposed by John Exley, T. S. Adair, and Harold R. Cross); Geale, William James, L.R.C.S.&P.Edin., L.F.P.S.Glasg., Assistant Medical Officer, Scalebor Park, Burley-in-Wharfdale, Yorks (proposed by J. R. Gilmour, G. F. Barham, and C. Hubert Bond); Inglis, J. P. Park, M.B., Ch.B.Edin., Assistant Medical Officer, Borough Asylum, Canterbury (proposed by E. F. Sall, N. Navarra, and R. H. Steen); Litteljohn, Edward Salterne, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Hanwell, W. (proposed by Percy J. Baily, H. Hayes Newington, and C. Hubert Bond); Morton, John Hall, M.D., B.Ch., B.A.O., Univ. Dubl., Assistant Medical Officer, Hatton Asylum, Warwick (proposed by Alfred Miller, Arthur W. Wilcox, and W. F. Samuels); Rodgers, Frederick Millar, M.B., Ch.B.Vict., D.P.H., Senior Assistant Medical Officer, Lancashire County Asylum, Winwick (proposed by Alexander Simpson, G. F. Barham, and C. Hubert Bond); Rolleston, Charles Ffrance, B.A., M.B., B.Ch., B.A.O., Univ. Dubl. (Assistant Medical Officer, County of London Manor Asylum), Horton Manor, Epsom (proposed by W. J. Donaldson, G. F. Barham, and C. Hubert Bond); Tattersall, John, M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Hanwell, W. (proposed by Percy J. Baily, H. Hayes Newington, and C. Hubert Bond).

Dr. Thomson's Motion.

Dr. Thomson formally proposed the following resolution, of which he had given notice, and which appeared on the agenda:

> "That for the more efficient teaching and training of the coming generation of alienists in psychiatry, the Medico-Psychological Association—in the first instance through its Education Committee—consider some scheme for post-graduate teaching and training, with or without the imprimatur of a diploma given after such a course (with or without examination) with a view to its being brought before the Universities and other qualifying and teaching bodies."

He said he did not think there was any need to take up much of the time of the meeting by any remarks on the motion because it had been twice before the majority of the members in abstract, printed among abstracts of papers. Further, the Editors of the Journal had kindly published an expurgated edition of his short paper in the July issue. He wished to add, however, that three months' further consideration of the subject had convinced him more than ever of the importance of taking some action on the motion. In the discussion he would like the question of asylum administration to be kept out as much as possible because that was not quite the point touched on, and its consideration would come later on. The whole point of his motion was that they should catch their men young, and train them properly at that stage, just as other specialists were trained, such as medical officers of health, military and naval men, and so on. The rest would follow. He mentioned that, because at the discussion on his paper, which was reported in the July Journal, speakers went into details concerning the co-existence of administrative capacity with purely medical capacity. He did not regard that as germane to the subject at all. Members of that Association were primarily specialists in mental disorders, and he maintained that they ought to be trained as such. He moved the motion standing in his name.

Dr. Clouston said he had great pleasure in seconding Dr. Thomson's motion. As yet the idea foreshadowed by Dr. Thomson was somewhat vague, but all present understood what he meant, and it was certainly worth while to refer it to the Educational Committee to have it thoroughly thrashed out, and have the great

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question of the special study of psychiatry among assistant medical officers of asylums taken into consideration, and if possible, some concrete scheme submitted to the Association. No doubt there were many difficulties in the matter, and he imagined that the chief one was that there existed already quite enough difficulty in getting assistant medical officers, whether trained or untrained; and if anything were added to the qualifications required of them probably the market for such assistants would still further decline and they would not be able to get assistant medical officers at all. However, Dr. Thomson, both in his speech and in his paper, rather foreshadowed that it should not be a kind of qualifying examination for the admission of asylum medical officers, but a course of study which they should take up after being assistant medical officers of an institution. Probably that would be by far the better mode of tackling the subject. (Hear, hear.) There could be no doubt of the need of instilling into everybody who entered asylum service the scientific spirit. The only possible means by which our reputation as a nation for the study of psychiatry would be advanced would be to get our young men keenly interested in that subject. It was beyond doubt that there was plenty of ability. And that being so, why should they not proceed to train it on the right lines in their own specialty? He did not wish to occupy much of the time of the meeting. Everybody was convinced—as he was himself—that it would be a very good thing if a practical scheme could be administered. It was known that the Army allowed the medical officers in the Indian Medical Service time for special study, and the same thing could probably be arranged for in institutions if assistant medical officers were allowed to go to a medical school for three months in the summer once in two or three years for post-graduate study. It could not fail to add enormously to their usefulness and efficiency.

Dr. Lewis Bruce wished to support Dr. Thomson's motion, as he thought it a most desirable thing that the younger men of the specialty should have a chance of being educated and being capable of doing good work in such a tremendous field as that of psychiatry. He did not agree with Dr. Clouston's view that if men were better trained for the work there would be a greater difficulty in getting assistant medical officers for asylums. He knew from personal experience, and from talking with young men who had been in asylum service and left it, that they left it because there was a lack of interest in the service; they saw no chance of advancement. That state of affairs could not be improved because, on the average, only one of four assistants got promoted to a medical superintendency. What, therefore, was to become of the other three? They must become what were known as "chronics" in asylum service, which was not desirable; or else they must be in a position to acquire knowledge which would help them in other branches. That was where Dr. Thomson's scheme would come in so well; it would make the service much more attractive than at present. If a man, after taking two or three years of asylum service, left that service after acquiring a store of knowledge, not necessarily a knowledge of psychiatry, but such as would enable him to devote himself to clinical work of various sorts, he would be a very much more valuable man and more likely to obtain a billet outside the specialty than a man who had been three or four years in an asylum and did nothing to improve his knowledge, who did nothing but go his rounds, and allowed his medical knowledge to rust. He could speak, also, from the experience of men who had been with him, who went in for the Indian Medical Service and passed well, merely in consequence of the work they had done off their own bat in an institution.

Dr. Bevan Lewis said he had the greatest appreciation for the motion and the way it had been framed and advocated by Dr. Thomson, as well as for the manner in which the meeting had received it. And in criticising it he hoped he would not be regarded as captious, nor as regarding with pessimism the great difficulties which stood in the way. Until those difficulties had been removed he did not think much advance would be made. Why was it that at present they had, by implication, to charge our asylums with a certain degree of stagnation in the medical spirit? He could indicate two, perhaps three, difficulties which were present and accounted for that stagnation. First, there was the passing of the clinical assistant—a very important matter. Again, he would indicate the extension—and the very large extension—of the medical curriculum, and the overwhelming amount of work which the assistant had to take in hand. The third point, and one of very great difficulty,

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was the paucity of those institutions which would afford their young men what he looked upon as the absolutely essential foundation for their study as psychiatrists, namely, their attendance at hospitals for general mental and nervous diseases, such as that at Queen Square. That, above all things, formed an essential element in the education of the alienist physician. With regard to the passing of the clinical assistant, he would refer to the resident assistant who had been in asylum service for nine, twelve, or eighteen months. At Wakefield, as probably many knew, under Sir James Crichton Browne, his successor, Dr. Herbert Major, and himself, there had been a constant passage through the wards of men who, though doubly qualified and unpaid, took up the post of clinical assistant, and assisted the staff right manfully, who enjoyed the work, and benefited by it, gaining an enormous and excellent experience, yet who were unpaid. It might be asked how that was possible. It was possible in those days, and at present many of those men held eminent positions in the specialty, in England, Scotland, Ireland, and the Colonies. That day seemed to have passed away. Perhaps it was a pessimistic view of the case to take when speaking of the passing of the clinical assistant. He trusted there would be a resurrection ere long. What was the special utility of that state of things? Surely it was that those men he referred to brought in an enormous stimulus to the permanent staff of the asylum. The senior assistant would take them in hand and follow up the teaching; and the circumstances seemed to require that he should keep abreast of the times. He, Dr. Lewis, deplored the passing of the clinical assistant. It was due, he thought, to the very keen competition for existence. Coupled with that was the prolongation of studies. Then there was also the very important fact that the clinical assistant had very great attractions in other paths. A very important one was the *locum tenens* physician. The remuneration for a *locum tenens* used to be about two guineas a week. He was now paid from three to five guineas. Of course one could not expect a clinical assistant to take a position in an asylum who had an opportunity of serving as *locum tenens* at three to five guineas a week outside. His remedy was to offer more prizes to applicants for office in asylums, and in that way perhaps there would be brought about the resurrection he desired. Then, all would agree as to the over-burdening of the medical curriculum, especially in the fifth year of the graduate's existence. At the present time it was almost impossible for a man to take out a resident course of studies in an asylum. An attempt was being made at Wakefield, and he hoped it would succeed. There would be considerable difficulty with the university and teaching authorities generally in bringing that about. What was required was a longer period of residence in the asylums, also an oral examination in mental diseases.

Dr. THOMSON said he was sorry to interrupt Dr. Bevan Lewis, but did so on a point of order. His motion had reference entirely to post-graduate teaching. There was no question of overburdening the medical student in it, and a great deal of what Dr. Lewis suggested was a matter for the Committee.

Dr. BEVAN LEWIS, continuing, said he thought he fully conceived the tendency of Dr. Thomson's remarks. He thought the development of post-graduate tuition depended to a great extent on the very great interest of the profession in psychiatric medicine, and if residents at asylums could get courses at the great institutions which taught general nervous diseases, he thought that would be securing a great deal of what was wanted. He did not mean as a substitute for what Dr. Thomson proposed, but as a strong accessory to the same end.

The PRESIDENT said that if no one else wished to discuss the motion, he would suggest that the question be referred to the Educational Committee to consider and report.

Agreed.

The meeting was then adjourned for lunch.

AFTERNOON MEETING.

On resuming, Dr. MACDONALD welcomed to the meeting Dr. George Henry Martin, of San Francisco, whom he was sure all would be pleased to have amongst them.

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Thanks to the President and Officers.

Dr. Blandford said he had much pleasure in proposing a vote of thanks, in which he was quite sure all present would cordially concur. It referred to the President and Officers of the Association for their work during the past year. He was sure it was quite unnecessary to enlarge upon the merits of the President or of the officers, who thoroughly deserved the members' thanks.

Dr. Percy Smith seconded the proposal, remarking that only those who had gone through the mill of the various offices knew how great an amount of work was entailed, and how it increased from year to year. Members had heard the President's expressions of sympathy with the medical student on account of the amount of work he was expected to get through, and the same might be said of the Association's officers. The amount of work was on the increase, as those serving the offices knew.

The motion was carried by acclamation.

The President (Dr. Macdonald), in thanking the mover and seconder and the meeting generally for the vote of thanks, said he felt as if he must put himself in the background, for whether in that Association or any other, the real success depended on the permanent officials. He thought the Association was fortunate in its permanent officials. No president could know that better than he did himself. If he began with the General Secretary, it was because he had a large share of the work to do; and he assured the meeting that from no man could he have received greater help than he had had from Dr. Bond. Another officer who had a tremendous amount of work to do was the Registrar, and that he knew now more than he had ever known before. He thought very few members realised the amount of work which Dr. Miller had to do, and therefore the special thanks of the Association were due to him also. They were all glad to see that most necessary and important officer, the Treasurer, among them again. Long might he be spared to occupy his usual seat at the meetings. During his year of office he, the President, had made it a point to try and go round the divisions, and it had been a source of the greatest satisfaction to him to see the amount of interest which was being taken in the work of the Association, and what was more, to see on the spot the amount of good and useful work being carried out. He therefore wished to thank the officers of the divisions for the interest they were taking in the work of the Association. Having said that there yet remained one other department of the Association's activity, which was well known, namely the Journal. Members knew with what care and earnestness the Editors looked after the Journal, and so long as it retained the Editors now controlling it he thought it was likely to continue its present high standard, and, indeed, to go upwards in influence and reputation. He had one further word to say. It was a late date to do what should have been done twelve months ago, namely, to return to members his very grateful thanks for the honour they did him by placing him in the presidential chair. It had been to him a most happy year of office, and that had been due to the great kindness and consideration which he had received from everybody. In conclusion he returned grateful thanks on behalf of the officers of the Association.

Induction of Dr. Mercier as the new President.

The President said the last duty remaining to him as President was not by any means the least pleasant. He viewed it as a distinct honour that it should have fallen to his lot to induct into the chair Charles Mercier. If he had felt called upon to use any words in doing so, he did not know what words he should choose, but he felt that any words would be an impertinent superfluity. In placing around the neck of the new President the medallion of office he wished him a very pleasant year in his new sphere.

Dr. Mercier then took the chair.

The President, in returning thanks, said he supposed there was no position more grateful to a man who had worked for a number of years at one particular specialty among a large number of colleagues scattered all over the country than to be elected, by the suffrages of his fellows to the chair of that Association. He need scarcely say how very highly he appreciated the great honour his fellow mem-

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bers had done him, and how much indebted he was to his predecessor for the graceful words with which he introduced him.

He announced that the Association's Bronze Medal had been awarded to Dr. S. Carlisle Howard, Assistant Physician of the Perth District Asylum for an essay on "The Systematic Estimation of the Leucocytes in certain Cases of Insanity, with Special Reference to the Toxæmic Theory." Dr. Howard was not present, but the medal would be forwarded to him, and he expressed the Association's congratulations to the recipient. Unfortunately, as the Treasurer intimated in the morning, the Gaskell Prize had not been awarded. It was a matter of great regret, and he could not allow the present occasion to pass without expressing his sorrow that the very handsome and splendid provision which was made by Mr. Gaskell's relatives was not more appreciated, and that there was not more competition for that Prize. It had been several times suggested that other prizes should be offered by the Association for scientific work done in asylums; but as long as the Gaskell Prize remained unawarded it would be, he thought, futile to encourage work by those means. The fund was now increased, owing to lapses, so that by the aid of judicious investments it was now 50 *per cent.* greater, and whoever gained the award would receive a very handsome one. It consisted of a gold medal with a sum of money, and it was matter for regret that it was not more sought after.

Another pleasant duty which he had was to ask the Association to accept an extremely handsome present which had been made to it by a past president, Dr. Outterson Wood, who had been associated with Dr. Urquhart in the matter, and had succeeded, after the expenditure of infinite time and labour, in unearthing the portraits of every president of the Association, from its inception to the present day. Those had been combined in an album, and that album Dr. Outterson Wood would now present to the Association.

PRESENTATION OF ALBUM OF PORTRAITS OF PAST PRESIDENTS.

Dr. Outterson Wood said it afforded him very great pleasure to lay before his fellow members an album containing portraits of past Presidents of the Association. It contained fifty-eight such portraits, with the name, date, and qualification of each, together with a characteristic sentence from their writings. The first annual meeting of the Association, as many might remember, was held at the Nottingham County Asylum in 1841. The chairman of that meeting was Dr. Blake, who was then visiting physician to that institution. Fortunately, he had been able to obtain his portrait with which to commence the series, and the likeness of each successor was continued in an unbroken line down to to-day. The labour had, admittedly, been considerable, but he assured his hearers it had been a labour of love, and he could scarcely express the extent to which they were all indebted to the indomitable perseverance and energy of their esteemed colleague Dr. Urquhart for the enormous trouble he had taken in unearthing the records of the past in order that the value of the album might be enhanced by a characteristic sentence from the writings of each president. There was something from every one of them! Acting also upon Dr. Urquhart's suggestion, there had been added to the book a "*foreword*" or preface, in the beautiful words of their esteemed predecessor, Conolly, in which he gave expression to his feelings on leaving Hanwell Asylum. As they were very brief he craved permission to quote them: "No longer residing in the Hanwell Asylum, and no longer superintending it, or even visiting it, I continue to live within view of the building and its familiar trees and grounds. The sound of the bell that announces the hour of the patients' dinner still gives me pleasure, because I know it summons the poorest creature there to a comfortable, well-prepared, and sufficient meal; and the tone of the chapel bell, coming across the narrow valley of the Brent, still reminds me, morning and evening, of the well-remembered and mingled congregation of the afflicted who are then assembling, humble, yet hopeful and not forgotten, and not spiritually deserted. The contemplation of the vast exterior of the wings of the Asylum still deepens the happy impression that through

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all that extent of ward and gallery kindness and watchfulness ever reign. And when my thoughts are transferred from this, my home asylum, with its 1,000 patients, to nearly forty institutions for the insane in this great country, in which there are more than 13,000 patients to whom similar comforts are afforded, and throughout which the same system prevails, I find a reward for any share I have had in promoting these things beyond my deserving, a consolation in years of comparative inactivity, and a happiness far overbalancing the pains and troubles incidental to my life as to that of all mortal men." Dr. Outterson Wood said he thought any further remarks of his own were unnecessary, and he now confided the album to their keeping, with the hope that in the days that are to come others may be found to continue the work which he and Dr. Urquhart had ventured to begin. In conclusion he begged the Association to accept the album as a gift from himself and as a small recognition of the pleasant memories connected with his membership of the Association for so many years.

Dr. YELLOWLEES said he thought the Association should not be content with the expression of gratitude from the chair only, but that as an Association they should say how very highly they appreciated the beautiful gift by Dr. Outterson Wood, and the infinite trouble and pains which he and Dr. Urquhart took in the matter, and how much it was valued. There should be a very special vote of thanks. Without Dr. Urquhart's research into the remoter ages even Dr. Wood's patience would not have sufficed.

Dr. URQUHART said he did not know that it was necessary for him to offer any remarks, except to acknowledge the very kind words which had fallen from the President and from Dr. Yellowlees for the two years' work which had been put into the Album. Dr. Wood naturally could not say what he had done to carry out that work, which he long ago began by placing before the Association a complete record of the history of the chairmen and presidents, working over the whole chronology of the Association in the admirable introduction to each volume, which showed how they stood year by year. It was a great pleasure to him that Dr. Wood's gift had been so acceptable to members, and any help which he, Dr. Urquhart, had been able to give had been a source of great gratification to himself. The most impressive part of the little ceremony just performed was the reading of Conolly's eloquent words. Sir John Bucknill used to say to him that he would have every man who practised amongst the insane read every word that Conolly ever wrote; and it was, perhaps, only when one returned to Conolly after many years and re-read what he wrote that one fully appreciated the power, the influence, and the extraordinary facility which he had in guiding opinion in this country. It was a great pleasure to be able to insert that preface, because he was sure that amongst those presidents who had retired from more active administrative duties, those words of Conolly must find an echo in their hearts. And that was an encouragement to those who were not yet upon the shelf.

The PRESIDENT said the Album would now be deposited among the archives. It would be for all time a record of the personal appearance of every past president of the Association. He supposed there was no other medical society in London which had the same privilege of referring to so intimate a personal image of its previous directors.

The President then delivered his Address (see p. 619).

Dr. CLOUSTON said the Association had just listened to an unique address, and from an unique origin. He thought members had that day seen and heard Dr. Mercier at his very best. It was not always that a man when promoted to the presidential chair appeared and spoke his best. He was very well aware that to thank a man for a magnificent address like that just delivered was always so much of an anticlimax that the speaker was anathematised by those who listened to him. But they could not pass over that address without at all events expressing their warmest appreciation of the pleasure which it had given, and conveying their warm congratulations to the President, not only for the address itself, but for the way in which it had been delivered. (Cheers.) The subtlety of the address had been great. First, members had an experience of Mercier the wit, in the introduction, and then they saw Mercier the metaphysician and the philosopher. Then he got as far as the psychology. Then, with a touch of physiology thrown in, he got at last to the physician. And those portions were so delightfully put together that his audience were taken in, as it were, and the transition from the one phase

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to the other was imperceptible. He believed that the old philosopher of the most cast-iron mind would have accepted Dr. Mercier's general proposition. But Mercier himself began with the ego, the consciousness, the will, and told them that everything depended upon that, especially the great things of the mind—desire, love, hate. That would satisfy the physician absolutely and he would not want anything more; he would have said that all the rest was mere addition to that main proposition. But Dr. Mercier gradually led his audience in his subtle way through those psychological regions, and so adroitly that he did not think anyone would fail to agree with him. Probably when they got home they would disagree with several of his main propositions, but they did not do so then. Dr. Mercier was wise enough not to begin in the ordinary commonplace way of the psychologist of the present day by explaining mind in its relationship to reflex action as it occurred in the lower creatures, and working upwards. He hit out from the shoulder and attacked the main problem of the *ego* of consciousness, and from that he worked down, as they had heard. The Association must feel proud of itself, and he could tell the President he had not only made a brilliant appearence, but what he had done had brought good to the Association over which he was presiding. (Cheers.)

Dr. G. SAVAGE, in seconding the vote of thanks, said he felt, with Dr. Clouston, that it was a very good thing indeed that Dr. Mercier had presented such a paper; it was altogether out of the common, and he was happy to say it was not intensely practical. One felt the greatest respect for the workers of the world—for the practical men; but the men who prided themselves on being practical were so often nothing else, and in many cases their practicality was rather doubtful. One was also pleased to find that Dr. Mercier was getting older; it was a pleasure to find that softening influence which age was supposed to bring. He often thought of an aged French physician coming round with him at Bethlem Hospital many years ago, and whom he asked whether he believed in a number of things. The reply was: "When I was young I believed all sorts of things about all sorts of things, but now I am old I believe nothing about nothing." He was inclined to feel that the President was subject to that healthy agnosticism, that capacity for receiving fresh impressions and absorbing them, that feeling that there was something beyond the definite, that, in fact, our knowledge must depend upon our growth. He thought that one of the most impressive things to him for many years was the way in which Mr. Balfour, at a meeting of the British Association, pointed out that science was so self-satisfied, and yet he asked what science was? It was the measure of experience, of things occurring in the outer world. What were those things measured by? By the very instruments which those impressions made. Eyes were used to measure and gauge light and sight; yet they were created by impressions. And for a scientific man to say he could only believe what he saw and heard, and was not prepared to accept anything beyond that, simply meant that he did not recognise that there were other forces and other things which we had not yet attained to, and that our attempt to explain what mind was must depend, in each age, upon the advance which we had made towards its knowledge. He was sure that such an address as that just given by Dr. Mercier helped members distinctly to feel what they would like to know. The way in which Dr. Mercier had referred to desire on the one hand, while throwing in healthy doubt, was very helpful. The President pointed out that we had grounds for believing in a very definite relationship between mind and matter. When he spoke so eloquently as he did upon desire and its relationships, one could not help feeling that there was in Nature, as exhibited by desire, almost a chemical action, and he, Dr. Savage, was in the habit of thinking—if not of saying—that desire, affection, and the rest were, after all, glandular; that they were, to a very great extent, dependent upon the attraction of something towards the self. And, as Dr. Mercier had pointed out, it was an entirely organic thing, which could be explained. He had said quite enough to show how fully he appreciated the address which had been given, and he was sure all would agree that it deserved their heartiest thanks.

The resolution was carried by acclamation.

The PRESIDENT said he would express his acknowledgment of the vote in few words. Dr. Clouston had surpassed himself in eulogy, and he could only say—much exaggerated. He thanked the meeting for its kind appreciation.

The PRESIDENT then invited a discussion on Dr. Cunyngham Brown's paper

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upon "The Boarding-out of the Insane in Private Dwellings." (The paper had already been published in the Journal for July this year.)

Following a *resumé* of the paper by Dr. BROWN, a good discussion was elicited, in which Drs. Milsom Rhodes, Elkins, Clouston, McDowall, Rayner, Sankey, Hayes Newington, Dawson, Bond, and Robert Jones took part.

The PRESIDENT pointed out that there was as yet no seconder to the resolution embodied in the paper. He suggested that Dr. Brown might bring the matter up again the following morning, having in view the appointment of a committee and their exact terms of reference.

SECOND DAY.

The PRESIDENT, Dr. MERCIER, was in the Chair.

The PRESIDENT expressed regret that Dr. Cunyngham Brown was unable to be present, as he had hoped he would have had this opportunity to reply to the discussion on his paper, and to submit terms of reference if it were decided to appoint a Committee.

Dr. RAYNER then proposed the formation of a committee, indicating its membership, and was seconded by Dr. DRAPES.

After considerable discussion, in which Drs. Dawson, Rayner, Bedford Pierce, Yellowlees, Rhodes, Hayes Newington, Robert Jones, P. W. MacDonald, Bower, and the President took part, it was resolved, having in view the forthcoming report of the Royal Commission upon the Feeble-minded, to adjourn the consideration of the matter until November.

"The Case against Dementia Præcox" was the title of a paper which was then read by Dr. ROBERT JONES (see p. 651).

A very lively discussion ensued, in which the President, Drs. Stoddart, Drapes, Percy Smith, Bevan-Lewis, T. Johnstone, Clouston, and Bower took part.

As several other members were desirous of joining in the discussion, but were prevented from lack of available time, it was resolved, in view of the importance of the subject, to adjourn the discussion until the November meeting, and further, that as the subject was complicated and difficult, it would be better that the adjourned discussion take the form of a set symposium by those who were willing to take part.

AFTERNOON MEETING OF SECOND DAY.

Dr. ALAN MCDOUGALL read a paper entitled "On the Principles of the Treatment of Epilepsy" (see p. 718).

The PRESIDENT having remarked that the true title of the paper would seem to be "The Treatment of Epileptics," Dr. Savage opened an interesting discussion, which was continued by Drs. Milsom Rhodes, Rayner, Shuttleworth, Yellowlees, Robert Jones, Clouston, Briscoe, Paul, Orr, Bond, and the President.

Dr. MCDOUGALL replied.

The PRESIDENT said the Association was honoured that afternoon by the presence of Lady Henry Somerset, who had promised to communicate some of her great experience on the treatment of inebriety.

Lady HENRY SOMERSET then gave an instructive and highly interesting address, entitled, "Some Aspects of Inebriety" (see p. 704).

It was followed by a full and animated discussion, in which the President, Drs. Stewart, Clouston, Yellowlees, Milsom Rhodes, Hayes Newington, Bedford Pierce, and Rayner took part.

The proceedings were terminated by a paper read by Dr. Elkins. Its title was, "Asylum Officials: Is it Necessary or Advisable for so many to Live on the Premises?" (see p. 691).

Owing to the lateness of the hour and the obvious importance of the paper it was agreed that the discussion on it should take place at the November meeting, the paper in the meantime to appear in the Journal.

ANNUAL DINNER.

The annual dinner was held in the evening of the second day at the Criterion Restaurant. The occasion was unique in the history of the Association, as it was the first time that the presence of ladies graced the dinner. About fifty members and thirty guests were present.

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IRISH DIVISION.

The SPRING MEETING of the Division was held at St. Edmundsbury, Lucan, on Thursday, April 30th, 1908, by the courtesy of Dr. Leeper, who entertained the members at luncheon after first escorting them round the institution.

At the meeting afterwards the chair was occupied by Dr. Leeper, and there were also present—Drs. T. Drapes, James J. Fitzgerald, H. M. Cullinan, J. O'C. Donelan, M. J. Nolan, John J. Fitzgerald, H. M. Eustace, J. A. Oakshott, and W. R. Dawson (Hon. Sec.). Letters regretting inability to attend were received from the President of the Association and Drs. P. O'Doherty and J. Patrick.

A resolution expressing the sense of the loss sustained by the Association in the death of Dr. Conolly Norman, and of sympathy with Mrs. Norman, was unanimously passed.

The minutes of the previous meeting were read, confirmed, and signed.

A letter was read, acknowledging a copy of a resolution passed at last meeting, recommending the proposals of the Irish Asylum Officials Superannuation Committee to the favourable notice of the Chief Secretary for Ireland.

A letter was read from one of the Hon. Secretaries to the Conolly Norman Memorial Committee, asking for the sympathy and support of the members of the Division. The project of establishing a memorial to the late Dr. Norman was unanimously approved.

Dr. James F. Fitzgerald, Assistant Medical Officer, District Asylum, Clonmel (proposed by Drs. B. C. Harvey, J. O'C. Donelan, and W. R. Dawson), and Dr. Richard R. Kirwan, Assistant Medical Officer, District Asylum, Castlebar (proposed by Drs. F. C. Ellison, E. Fleury, and W. R. Dawson), were after ballot declared unanimously elected ordinary members of the Association.

Dr. W. R. Dawson was elected Divisional Secretary, and Drs. M. J. Nolan and T. Drapes, Representative Members of Council, for the ensuing year.

The following dates were fixed on for the meetings of the Irish Division in the ensuing session: Saturday, November 7th, 1908; Thursday, April 22nd, and Thursday, July 1st, 1909.

It was left to the Hon. Secretary to arrange a place for the Summer Meeting of the Division.

The report of a Committee of the Division appointed at last meeting to consider the best method of promoting increased interest in the work of the Association amongst the Assistant Medical Officers was received and adopted. It was suggested (1) To try to secure reduced rates from the railway companies; (2) To offer a medal or prize for competition by Assistant Medical Officers, subject to the approval of the Association; (3) To invite the Assistant Medical Officers to join in collective investigations; (4) That offers of hospitality should be secured for Assistant Medical Officers; (5) That Resident Medical Superintendents should try to allow their Assistants to attend one meeting in the year; (6) That the Autumn Meeting should be set apart for considering the reports of collective investigation.

The Secretary called attention to the circumstances connected with the election of a Resident Medical Superintendent to Carlow Asylum, the committee of which were endeavouring to appoint the Assistant Medical Officer, though not legally qualified either by length of time registered or in the asylum service, and had been threatened with a mandamus. After some discussion a resolution was unanimously passed expressing satisfaction that the Executive were enforcing the legal requirements.

Dr. JOHN J. FITZGERALD read a paper entitled, "Twelve Months' Experience of the Treatment of One Thousand Cases of Insanity, without the Employment of Chemical or Mechanical Restraint, or Seclusion." It was discussed by the Chairman and Drs. Drapes, Donelan and Oakshott, and Dr. Fitzgerald replied.

A letter from Dr. W. Graham was read, calling attention to the report of a trial in the course of which it appeared that His Honour, Sir Francis Brady, had animadverted on the making of wills by asylum patients, and said that he would not uphold such wills. After a general discussion it was decided to suggest to the

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Lord Chancellor that it might be desirable for him to issue specific directions respecting will-making by lunatics.

The meeting terminated with a cordial vote of thanks to Dr. Leeper for his kind hospitality.

The SUMMER MEETING of the Division was held at Waterford District Asylum, by the courtesy of Dr. Oakshott, on Thursday, July 2nd, 1908.

After a visit to the Asylum in the morning the members enjoyed a very pleasant trip down the harbour to Dunbrody Abbey and the new Barrow Bridge, in a steam launch kindly lent by J. N. White, Esq., M.R.I.A. They were then entertained at lunch by Dr. Oakshott, who occupied the chair at the subsequent meeting, there being also present:—Drs. T. Drapes, R. R. Leeper, James J. Fitzgerald, John J. Fitzgerald, A. Fitzgerald, H. M. Eustace, G. F. West, O. F. McCarthy and W. R. Dawson (Hon. Sec.). Dr. Mary S. P. Strangman attended as a visitor. Apologies were received from the President of the Association and from Drs. W. Graham, O'Neill, Nolan, Bond, Redington, Allman, Donaldson, Steen, Burrell, Cullinan, Rutherford, Pierce, Lawless, Martin, Revington and Rainsford.

The minutes of last meeting were read, confirmed, and signed, and the Hon. Secretary reported on various matters arising out of them, stating amongst other things that a conditional mandamus had been obtained to compel the Committee of Carlow Asylum to appoint a properly qualified Medical Superintendent.

A letter from Mrs. Conolly Norman was read, thanking the members for the resolution of condolence passed at last meeting.

A letter from the Registrar in Lunacy was read, stating that the Lord Chancellor could not lay down definite rules as to will-making by lunatics.

The following was unanimously elected an Ordinary Member of the Association:—William Douglas Sammon, L.R.C.P.I., L.M., L.R.C.S.I., Assistant Medical Officer, Richmond Asylum, Dublin. Proposed by Drs. J. O'C. Donelan, J. M. Redington, and D. F. Rambaut.

Drs. W. Graham and James J. Fitzgerald were unanimously elected Representative Members of Council for the ensuing session, to replace Drs. Nolan and Drapes, who were found to be ineligible by reason of having held the post for the last three years consecutively.

It was decided to hold the Autumn Meeting of the Division at the Royal College of Physicians, Dublin.

The following were appointed a Committee of the Division to watch legislation in the interests of the insane, in view of the impending Irish Poor-Law Amendment Bill, viz.: Drs. Donelan, Dawson, Graham, Nolan, James Fitzgerald, Leeper, Drapes, and Oakshott.

The Chairman, having called attention to the fact that the expenses of the Hon. Divisional Secretary in attending meetings were not paid, it was unanimously resolved, on the proposal of Dr. LEEPER, seconded by Dr. DRAPES, to ask the Council to consider the matter with a view to making a grant towards the Secretary's expenses in attending the London meetings.

Dr. OAKSHOTT contributed some "Notes on Waterford District Lunatic Asylum":—

The Waterford Asylum was erected in 1833, and opened in July, 1835, with accommodation for 100 patients, fifty of each sex. The original building consisted of a central administrative Block with Clock Tower on top, and corridors right and left, so arranged that both sleeping and day rooms faced the east.

The building was from the design of a Mr. Wm. Murray, whose plans seem to have had the approval of the then Board of Control, as a number of asylums were erected in Ireland about the same time on a similar plan.

It was more like a prison or penitentiary than a hospital for sick people with its long, vaulted, flagged corridors and single rooms with small windows placed high up from the ground. It appears strange with all the advantages the site possesses that the plan was not so arranged that the inmates could have the benefit of the sunlight and beautiful view available from the south and west aspects.

Whatever may have been the drawbacks to this building it must have been a vast improvement on the accommodation provided previously for the lunatic poor of the city, as it appears that before it was opened the only place of refuge

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for them was the "House of Industry" which they shared with tramps and dissolute characters of both sexes. An insight into the character of those confined there can be gathered from a note taken from 'Ryland's History of Waterford,' published in 1827. "This institution (House of Industry) has derived great benefit from the introduction of a tread-mill." It is to be hoped that this beneficent instrument of discipline was not used as a mode of treatment for the poor lunatic.

The prison-like character of the old building can still be seen in a few places, altered though it has been from time to time, but in 1835 it must have been dreary in the extreme with its long, badly lighted, cold, cheerless corridors, with flagged floors, whitewashed walls, and small windows, only admitting the minimum quantity of light and air, and its dismal airing courts surrounded by high walls.

When the Asylum was first opened, and for twenty-eight years afterwards, the Superintendent, or Manager as he was then styled, was a layman. The first Manager was a Major Rowan, who only held the position for a few years, and was succeeded by Capt. Dobbs. They were assisted by a Visiting Physician, who at first was not expected to visit daily.

On the retirement of Capt. Dobbs on pension in 1863, Dr. Thomas Crowe Burton was appointed the first Resident Medical Superintendent, Waterford being the last asylum to be placed under the care of a resident physician. From the time of Dr. Burton's appointment a great improvement appears to have been made in the condition of both patients and staff, as the discipline must have been very lax previously if one can judge from the frequent reports and dismissals of attendants during his short time of office, extending only for two years, when he was transferred to Castlebar Asylum. Dr., now Sir Francis, MacCabe was appointed early in 1866, and continued the work of improving the condition of the establishment. He was after six years good service promoted to the important position of Governor of Dundrum Central Criminal Asylum. The vacancy created by Dr. MacCabe's promotion was filled by Dr. R. V. Fletcher, the late respected Resident Medical Superintendent of Ballinasloe Asylum, to which he was transferred after about two years service, when he was succeeded by Dr. Pierse Connolly, who had been for many years previously Visiting Physician to the Asylum. He also only held the position for two years, dying in November, 1877.

On his death an interregnum of three months occurred, the Asylum in the meantime being managed by the Visiting Physician and the Clerk. It was not until February, 1878, that the late Dr. Ringrose Atkins was appointed. He held the position for exactly twenty years, dying in 1898.

It is hardly necessary to remind the members of this Association of the late Dr. Atkins. He was well known as an alienist and a writer and lecturer on various subjects. His memory is still revered here, where he endeared himself to all classes and creeds by his amiable and charitable disposition.

By his early and unexpected death, the writer of these notes was selected to fill the vacancy, being the last but one Superintendent in Ireland to be appointed before the Local Government Act (Ireland) 1898 came into force. As already stated the Asylum was originally constructed to contain 100 patients, but as the space provided shortly became insufficient the Asylum was enlarged from time to time, at first by internal structural alterations and afterwards by additions built to the parent Asylum, the most extensive of these being the red-brick building erected in 1895 at the south side, which raised the accommodation to 484 beds. The space thus provided having again become insufficient for the wants of the district the Committee, in 1903, after long and careful consideration, decided to further enlarge the institution by erecting two detached pavilions for 60 patients of each sex to act as hospitals for the sick and infirm, to alter certain rooms on the first floor of the oldest part and convert them into four large dormitories and a dayroom, enlarge the windows at the back and front of these rooms, heat a number of wards with hot pipes, build a house for the Resident Medical Superintendent and convert his old dwelling, part into quarters for the Assistant Medical Officer, and part into apartments for attendants, and utilise a room made available by these changes for the meetings of the Committee.

These additions and alterations raised the accommodation to 605 beds and provided separate sleeping rooms for the attendants, as heretofore they had to sleep in the dormitories with the patients.

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All the changes in the original design of the institution clearly show the marked improvement in the style of buildings of the present day from the dreary prison-like structure of over seventy years ago. It is interesting to note on going over the records the anxiety of the Governors to provide for and ameliorate, if possible, the condition of the lunatic poor of the district; this is characteristic of the people of Waterford, who are remarkable for their charitable disposition. A stranger coming to live among them cannot help being struck by the number of charitable institutions in the city and by the generous help always afforded to the deserving poor.

Dr. Mary S. P. Strangman, introduced by the Chairman, read a paper entitled, "The Atropin Treatment of Morphinomania and Inebriety," which was discussed by the Hon. Secretary and Drs. Leeper, Eustace, James Fitzgerald, and West (see page 727).

Hearty votes of thanks were unanimously passed to Dr. Oakshott for his conduct in the chair and his kind hospitality; to J. N. White, Esq., M.R.I.A., for kindly lending his steam-launch for the use of the members; and to Dr. Strangman for her paper; and Dr. Oakshott having replied for himself and Dr. Strangman, the meeting terminated.

COMPLIMENTARY.

THE PRESENTATION OF THE FREEDOM OF KIRKWALL TO DR. CLOUSTON.

The freedom of the Royal Burgh of Kirkwall in far Orkney has been conferred on Dr. Clouston, who was surrounded by his family and friends on that auspicious occasion. Provost Slater said that the list of distinguished men on the Burgess' Roll was honourable because each of them had been a man of outstanding distinction in the country. Dr. Clouston had conferred distinction on the county, of which Kirkwall was the chief town, and came of an old Orkney family who have held lands there for very many years. Provost Slater proceeded to sketch Dr. Clouston's career, with which we are all familiar; and referred to his kindness and hospitality, specially to Orcadians; his help and his influence had been a boon and a blessing to many. Provost Slater handed the burgess ticket to Dr. Clouston. It was engrossed as follows:

Kirkwall, the twenty-eighth day of August, one thousand nine hundred and eight.—Which day the Magistrates of the Royal Burgh of Kirkwall admitted Thomas Smith Clouston, Esq., M.D., LL.D.Edinburgh, a Burgess and Guild Brother of the said Burgh, with all the privileges and immunities thereto belonging, on the occasion of his first visit since his recent retirement from the arduous duties of Medical Superintendent of the Royal Edinburgh Asylum after a service of thirty-five years, in recognition of his very distinguished professional career, of his world-wide reputation as an authority on mental diseases, of the additions he has made to the literature of his profession, and of the deep interest he has always taken in his native county of Orkney. This Burgess and Guild Brother Ticket was directed to be prepared and delivered to him, the said Thomas Smith Clouston, by acceptance hereof, becoming solemnly bound to discharge every civil duty incumbent by law on a true and faithful Guild Brother of the said Burgh. A memorandum of which admission, written upon stamped paper, is enrolled among the records of the said Burgh.—In witness whereof, these presents are subscribed by the said Magistrates and by the Town Clerk, and the seal of the Burgh is impressed hereon.

Jas. Slater, Provost.
Wm. B. Baikie, Senior Bailie.
Wm. F. White, Junior Bailie.
Wm. J. Heddle, Town Clerk.

Provost Slater in handing the burgess ticket to Dr. Clouston remarked, amid cheers, that he had great pleasure in doing so on behalf of the citizens of the Royal Burgh.

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Dr. Clouston, in acknowledging the honour conferred upon him, said that he was never so pleased with anything in his life. Being an Orcadian, bearing a name which is absolutely Orcadian, and a name found nowhere else but when borne by Orcadians and descendants of Orcadians, it was specially gratifying that he should be asked to receive the greatest honour which the Town Council of Kirkwall could confer on any citizen. There had been comparatively few men within the last hundred years who had received this great distinction, and so it was doubly welcome and doubly appreciated. Dr. Clouston referred to the work of his life, and indicated that statesmen should turn their attention to the sons of Orkney and Shetland to reinvigorate the race. Dr. Clouston then signed the Burgess Roll, and was afterwards entertained to a banquet in the Kirkwall Hotel, where the proceedings were enthusiastic and cordial. We feel sure that Dr. Clouston's many friends will compliment him upon this new honour which has been so kindly conferred upon him. They best know how well deserved it was. We need only add our congratulations to Dr. Clouston, and express our best wishes.

DR. MAGNAN.

Dr. MAGNAN's jubilee has been honoured in Paris by a concourse of distinguished friends. For forty years he has been physician to the admission block of St. Anne's Asylum, and his former fellow-student, Dr. Bouchard, presided at the festival. Dr. Magnan was presented with a beautiful plaque, the work of Professor Richer of the Institute; and the subscribers are to receive replicas in the form of medals. Well-known colleagues were present, Dr. Ritti, representing the Medico-Psychological Society; Drs. Briand and Sérieux, speaking in the name of former pupils; Dr. Ladame for Switzerland; and Dr. Bagenof for Russia. Dr. Mierzejewsky had been chosen by his friends to represent them, had journeyed to Paris for the purpose, but the calamity of his sudden and fatal disease occurred on the very day of the ceremony.

Dr. Sérieux said, My dear master, observer, investigator, incomparable clinician, you have upheld the glorious traditions of French psychiatry, and it is to you we owe the present position of our branch of medicine. We cannot forget that you are also a teacher and the benefactor of your patients. I hardly see anyone here who has not been your pupil, directly or indirectly. Teacher you certainly are, not only by way of formulæ, but also by your good deeds and the thorough performance of your daily duty. Devoted to duty not only in the advancement of science but also in the care of your patients—finding words of comfort for them and combatting the coalition of routine with ignorance—we find to have been an education of the best. We have not only had our preference for mental pathology developed, but have found it revivified by your published works. Your influence has permeated France, and spread throughout the world where your pupils are scattered. Your life has been a valuable lesson on which to meditate—une excitation à bien penser et à bien faire. You have lived among your patients, disdaining publicity, taking no account of popularity, which some so often use to conquer. You require much of your colleagues, but are still more exacting of yourself. I have seen you late at night calming one patient and comforting another. I have heard them pour forth their troubles to you while I was lost in admiration. Your ardour is unabated after forty years of work here. Here is your life and the unity of it is splendid. Without your personal influence what prejudices would yet live, how many unfortunate patients would yet wear strait-waistcoasts in absolute isolation? We bow to-day before the master and benefactor.

CONOLLY NORMAN MEMORIAL FUND.

THE Honorary Treasurers of this Fund will be greatly obliged if all intending subscribers will forward their contributions at an early date.

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THE HANDBOOK FOR NURSES.

It is hoped that this Handbook will be published early in November, 1908, by Messrs. Baillière, Tindall and Cox.

COMPILATION FORMS AND EXPANSION TABLES.

The Compilation Forms and Expansion Tables, which have been found very necessary in the preparation of Asylum Statistics on the new system sanctioned by the Association, have been in general use during this year. A few errors and inconveniences have been reported. If any member has found any particular inconvenience he can kindly send a note of it either to Messrs. Adlard and Son or to the General Secretary.

OBITUARY.

Dr. John Cameron.

We regret to record the death of Dr. John Cameron, Medical Superintendent of the Argyll and Bute Asylum at Lochgilphead. He was born in Killin 67 years ago, and qualified at Edinburgh University. His first appointment was to Crichton Royal Institution, Dumfries, from which he went to the Argyll and Bute Asylum in 1874, in succession to Dr. James Rutherford. He was at one time an ardent volunteer, and retired from the Argyll and Bute Artillery with the rank of Lieutenant-Colonel. About three months ago Dr. Cameron went to Edinburgh, where he died, suffering from an internal malady, no hope being then entertained of his recovery.

NOTICES BY THE REGISTRAR.

Examination for the Nursing Certificate.

List of the successful candidates at the examination for the Nursing Certificate held in May, 1908.

England.

Birmingham City (Rubery Hill).—Males: George Hy. Cushan, George T. Mason.

Bethlem Hospital.—Male: Edward Cole. Females: Eva F. Scott, Isabella Evans, Harriett Mann, Alice M. Fosbery.

Canterbury Borough.—Male: Frederick T. Stannard. Female: Hilda J. Thornycroft.

Caterham.—Males: Harold J. Edwards, James Payne, Albert Atkins. Females: May Pringle, Mary McConnell.

Hull City.—Males: Thomas France, Arthur W. Legard, Albert Clabby. Females: Rose Stott, Lydia Thornton, Mary M. Moore, Hephzibah Harp.

Leavesden.—Males: Ashley A. Haseldine, George Roberts, Frederick Rhodes. Females: Mary E. Norwell, Mary Sullivan.

Newcastle City.—Females: Louisa Denham, Grace Thompson.

Notts City.—Male: Walter E. Cooper.

Retreat, York.—Females: Eliza J. Brearley, Ethel Gordon Dunbar, Geraldine S. McKew.

Sunderland Borough.—Male: Fred. A. McCullagh.

Storthes Hall.—Female: Gertrude Green.

Scalebor Park.—Males: William Atkinson, Frederick C. Horton, Harry Gilder, George Cawood, John Henry Cawood. Females: Mary Jane Stewart, Mary Charlotte Walls.

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St. Luke's Hospital.—Female: Esther H. Savage.

Private nurse examined at Long Grove.—Female: Helen Armstrong.

Private nurse examined at Claybury.—Male: John Mahony.

Bristol City.—Males: Timothy Rowan, Frederick W. Bolland, Arthur Legg, Henry Castle. Females: May Jackson, Helen F. Wigglesworth, Florence E. Button.

Cumberland and Westmorland.—Male: Sidney Hill. Females: Edith Hayden, Mary Farquhar, Gertrude Jamison.

Derby County.—Male: Thomas Gamble. Female; M. H. O'Bierne.

Devon County.—Males: Edwin Harding, Frederick S. Eager, George Whitehouse. Females: Beatrice Edworthy, Elizabeth A. Morgan, Ada Saunders, Bessie Simons.

Essex County.—Females: Frances Lily Penny, Anna M. Lewsey, Alma Bale, Maria J. Jones.

Herts County.—Male: Ernest J. Haywood. Female: Annie Alden.

Kent County (Maidstone).—Males: Percy F. Laming, Frank Neve, Guy K. Knight, Jesse Collar, Donald P. White. Females: Susanna Shaw, Rose Kemsley, Emily Mankelow, Alice M. Franklin, Ellen McCormick.

Tooting.—Females: Elizabeth Jordan, Ethel Wicks.

Salop County.—Female: Elizabeth A. Haywood.

Lancaster.—Males: David G. Edmonds, Herbert Ordish, James H. Paxton, Charles Tiplady, Joseph Lomax, Robert Parkin, William Power. Females: Annie Towlson, Lily Ada Tidyman, Mary Hurtley, Margaret Norris, Frances M. Parkinson, Mary Preston, Julia Brough, Mary Keating.

Lancaster County (Winwick).—Males: William E. Milligan, John Thompson, James William Scaling, Martin Meehan. Females: Jane Elizabeth Forbes, Edith A. Bennison, Annie Duckett, Annie R. Laurie.

Lancaster County (Whittingham).—Males: Edward Seed, Ernest Pittaway, James Fisher, Arthur Hy. Fann, Charles Dean, Frederick Coupe, Charles Broadley, Gill Akroyd, Albert Sutcliffe, George E. Gillett, William Allison, Willie Riley, John Richardson, Louis C. Patmore, Arthur L. Packer, Thos. Wm. Nelson, R. Hy. Holding, John Farrington. Females: Mary McGann, Jessie Fisher, Clara Smith, Marion Snow, Bridget Regan, Rose Owen, Louisa S. Gibson, Mary J. Harkin, Ellen Annie Cox.

Middlesex County (Napsbury).—Male: Robert Morris. Females: Ada Gamble, Jeanie Dumble, Margaret McCarthy, Frances M. Simmonds, Florence E. Pettit, A. A. E. McKnight.

Norfolk County.—Male: Henry Nobbs. Females: Sarah A. Fisher, Henrietta M. Gallant, Winifred Jones.

Somerset and Bath (Wells).—Male: Samuel J. Heath.

Staffs County (Cheddleton).—Females: Sarah C. Achurch, Maud E. G. R. Smith.

Suffolk County (Melton).—Males: Charles Addison, Henry Fuller, Cornelius Courtney. Female: Rosetta Clare.

Surrey County (Brookwood).—Males: Rodger Howard, John D. Howden, William Marshall. Female: Margaret Hiney.

Sussex County (Chichester).—Females: Winifred B. Brooks, Winifred M. Brown, Ada H. Frith, Florence E. Godfrey, Esther Johnson, Laura L. King, Edith M. Yeadon.

Sussex County (Hellingly).—Males: James Marks Braids, Septimus C. Somerville, William M. Fells.

Three Counties (Hitchin).—Males: James Moore, William Parsons. Females: Dorothy B. Brown, May Ludford, Lucy Lambert.

Barnsley Hall.—Male: Joseph Grundy. Females: Mary Healey, Annie Best.

Yorks (Wakefield).—Males: Francis L. Jackson, George Hutchinson, Henry T. Lilliman. Females: Annie Quickfall, Nellie Corridon, Lily Scales, Christiana Powles, Annie Tennant, Alice M. Astbury, Emma Hasker.

Yorks (Wadsley).—Female: Clara Vaughan.

London County (Bexley).—Males: Alfred Doidge, James Spittles. Females: Jennie E. Crombie, Jane L. Hunter, Eliza Johnson, May Seaward.

London County (Cane Hill).—Male: James Dye.

London County (Claybury).—Males: William James Hall, Charles C. Saye,

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James William White. Females: Kate Brenton, Ellen Walsh, Anna Tinney, Lucy M. M. Gale, Frederica Doyle, Elizabeth Peglar, Florence E. Thorpe, Margaret Mewitt, Louisa Hamilton, Elizabeth Todd, Kathleen Mary Nelson, Charlotte E. Briody.

London County (*Colney Hatch*).—Females: Annie Vile, Daisy J. Munday, Eva Steele, Emma Ayling, Kate Hobbs, Lily E. Williams, Lizzie E. Humphreys, Agnes E. Hope, E. G. Bradley, Ada M. A. Dodd, Ada A. Drayton, Emily E. Newell, Sarah Ralph, Emma E. Robertson, Elizabeth V. Rose, Elizabeth Clarke, Louisa Moore, Hilda Wood, Louisa B. Adlington, Sarah L. Wheatley, Edith A. Edwards, Annie Groves, Alice L. Child, Florence Hampson, Jane E. Frost, Elizabeth A. Emerson, Hannah Hills, Amy Davies.

London County (*Hanwell*).—Females: Kate Williams, Sophia Farr, Cissie Gollidge, Nora E. Wooster, Grace Eyre.

London County (*Horton*).—Males: Hugh Johnston, William G. Randall, James Staddon, Adam S. Calder, Ernest S. Dean, Michael J. Oliver. Females: Agnes Kelly, Margaret A. Morrison, Florence Boulch, Euphemia Percival, Annie Newman, Eliza A. Johnston.

London County (*Long Grove*).—Males: Bertram H. Mitchell, Ernest R. Webber, Donald C. Clark, Frank M. M. Hardy, Samuel J. Coleman. Females: Beatrice Cawthron, Elizabeth Randle, Margaret Baird.

Private nurse examined at Bicton (*Salop*).—Female: Margaret K. Simmonds.

Kent County (*Chartham*).—Male: Frederick Howlett. Females: Maud M. Mullins, Annie G. J. Easterbrook.

Chester County.—Males: Arthur Pritchard, Ernest A. Jones, Edward Owen, John Smith, Thomas Henry Newport, John P. Schofield. Females: Alice M. Glover, Catherine Valentine, E. M. Hargreaves, Daisy McIntosh, Harriet Valentine.

Warwick County.—Males: Austin Keen, Clarence Henry Lane. Females: Amy Sharp, Teresa Power.

Wales.

Glamorgan.—Males: Richard Jenkins, John R. Elmslie, Davie J. Thomas. Females: Elizabeth M. Davies, Margaret James, Blodwin Lewis, Sarah Lewis, Charlotte Missinden, Florence E. M. Skey, Mary Ann Owen.

Newport Borough.—Males: Albert Davenport, James R. Cook, Harry Bailey. Female: Evelyn H. Nigh.

Brecon and Radnor.—Male: W. G. Franklin.

Scotland.

Aberdeen Royal.—Males: George Heron, James Duncan. Female: Mary Helen Minty.

Ayr District.—Male: Patrick McBarron. Female: Mary Lindsay.

Crichton Royal.—Male: Adam Lothian. Females: Jeannie Fordyce, Christina Reid, Annabella Black, Mary Cameron, Elsie Macpherson.

Edinburgh Royal.—Females: Isabel J. K. Dott, Isabel K. Craigs, Annetta M. L. Ingram, Helen Hepburn, Margaret Alexander.

Fife and Kinross.—Males: John Adamson, Peter Scott Brown. Females: Annie Main, Margaret H. Sharp.

Glasgow District (*Lenzie*).—Females: Haslett Margaret, Mary Jenkins Smith, Jeanie G. Park, Mary McWilliam, Margaret Fleming, Mary M. Black, Margaret Symon.

Glasgow District (*Gartloch*).—Male: Temple C. Cormack. Females: Mary Pansy Allan, Marion K. Stevenson, Mary A. Wilson, Elizabeth Richardson, Ellen A. Cleary.

Glasgow District (*Gartnavel*).—Males: Alexander Ewing, Louis Jenner, Walter B. Lynas. Females: Isabella A. Helen, Bessie W. Thomson, Elizabeth Swanson, Margaret C. Robertson.

Govan District.—Male: Alexander Murdock. Female: Nettie S. McNish.

Inverness District.—Male: John M. Munro. Female: Agnes MacIntyre.

Kingseat.—Female: Elizabeth Robertson.

Lanark District.—Male: William Strachan. Females: Christina W. Greenhorn, Annie Bradley, Mary McNeil Weir, Jeanie Jackson.

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Montrose.—Males: John A. Thomson, John Nicoll. Females: Alice McKenzie, Annie C. Milne, Cecilia Fullerton, Annie Chapman, Charlotte Buchan.

Perth District.—Females: Ella MacKenzie, Annie F. Dewar, Margaret C. Boyd.

Riccartsbar.—Male: James Simpson.

Roxburgh District.—Females: Helen McFarlane, Mary A. Jarvie.

Stirling District.—Males: Martin Scanlan, John T. Mowat. Females: Alice E. Forster, Janet W. Marshall, Margaret Wards, Annie E. Mulholland, Margaret Lippiatt.

IRELAND.

Ballinasloe.—Males: William Hickey, Marks Kilalea, Timothy Churchill. Females: Mary Gorman, Nora Cullinan, Mary A. Finnerty.

Clonmel.—Males: Patrick Harding, James Grady. Females: Mary Maher, Mary Milton.

Cork District.—Males: Denis Mahony, John Coughlan, John Keane. Females: Annie Murphy, Minnie Reardon, Ellie O'Brien, Nora Motherway, Mary A. Sullivan, Anna Gould, Julia Lordon, Kate Twomey.

Downpatrick.—Males: John Barry, John Murtagh, Patrick King, William James McConvey, William James Tuft, William James Hanna, Joseph Hodgson.

Enniscorthy.—Male: James Nolan. Female: Annie Walsh.

Londonderry.—Females: Margaret Jacob, Kathleen Murphy.

Monaghan.—Males: William Haine, Arthur Graham, Peter Murphy, Joseph Johnston, Owen Connolly, Joseph Morrow, John Stewart, Patrick McKenna Females: Eliza Jane Clarke, Mary Ann McAdam, Mary Anne Boyle, Bridget Holland.

Portrane.—Females: Mary Kieran, Mary McGuirk, Anne Maria Orr, Kate Henneberry, Sarah Jane Taylor, Mary F. Nolan, Mary Phelan.

Richmond.—Males: John Pallis, John Brennan, Lawrence Murray, Michael Boland, John Quinn, William McDonald. Females: Edith Casey, Mary Aungier, Helena K. O'Beirne, Mary A. Breen, Margaret Alice Hartford, Maria McGuiness, Elizabeth O'Callaghan.

Waterford.—Males: James McDonald, Thomas J. Dunn. Females: Catherine Maher, Mary B. O'Toole.

St. Patrick's Hospital.—Female: Katherine S. D. Graham.

The following is a list of the questions which appeared on the paper:

1. What is meant by reflex action? Give three examples.
2. What points should a nurse attend to in the general management of a patient suffering from heart disease?
3. Describe the mental features seen in "epileptic insanity."
4. What are the special risks in cases of senile insanity, and how should they be guarded against?
5. A patient spits bright red blood. Where is it likely to come from, and how would you treat the patient till the doctor comes?
6. Describe the performance of artificial respiration.
7. What is a convulsion? In what diseases are convulsions most likely to occur?
8. What are the precautions to be observed in nursing patients suffering from consumption?
9. What are the principal conditions that lead to a progressive loss of weight?
10. What would lead you to believe that a patient suffers from hallucinations of hearing? Illustrate your answer by the signs observed in two patients known to you. Why are hallucinations of grave importance in many cases?

NURSING CERTIFICATE.

THE next examination for the Nursing Certificate will take place on Monday, the 2nd November, 1908.

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NOTICES OF MEETINGS.

Quarterly Meeting.—The next meeting will be held at 11, Chandos Street, Cavendish Square, on Thursday, November 19th, 1908.

South-Western Division.—The Autumn Meeting will be held at Bath on Friday, October 30th, 1908.

Northern and Midland Division.—The Autumn Meeting will be held on Thursday, October 22nd, 1908.

Scottish Division.—The Autumn Meeting will be held on Friday, November 20th, 1908.

Irish Division.—The Autumn Meeting will be held on Saturday, November 7th, 1908.

APPOINTMENTS.

Anderson, J. Theo., L.R.C.P., L.R.C.S., Senior Assistant Medical Officer to the Hospital for the Insane, Perth, West Australia.

Gayton, F. C., M.R.C.S., M.D.Aber., Medical Superintendent to the Surrey County Asylum.

Reid, W., M.A.St.And., M.B.Edin., Senior Assistant Medical Officer to Staffordshire County Asylum, Burntwood, near Lichfield.

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INDEX TO VOL. LIV.

PART I.—GENERAL INDEX.

Ætiology, 416
Ætiology of status epilepticus, 94
After-care Association, the, 393
Agglutinins in blood of the insane, 59
Album of portraits of past Presidents, 744
" " " " presentation of, 795
Alcoholism, 136, 750
Alkalinity of blood in epilepsy, 598
Amentia and dementia, 1, 264, 433
" " general summary of, 445
Amnesia due to arrest of development, 595
Amsterdam international congress, 195
Anæsthesia, general, acute mania following, 118
Annual meeting, 743
Anthropology, criminal, 70
Aphasia and apraxia, left-sided, 149
Appointments, 201, 431, 618, 808
Arson in hysterical somnambulism, 152
Asylum officials, 691
" reports issued in 1907, 158
" " " " 1908, 768
Asylum Workers' Association, 580
Asylums, clinical work in, 122
" research work in, 746
Atropin treatment of morphinomania and inebriety, 727
Auto-intoxication in mental confusion, 603

Babinski's conception of hysteria, 186
" symptom, absence of, in hemiplegia, 150
Bacillus coli in mania, 220
Balance sheet, 782
Biometrics and national eugenics, 71
Blake, William, 141
Blindness as a cause of dementia, 277
" mental, localisation of, 148
Blood, changes in, in insanity, 59, 227, 600
Boarding out of the insane, 532

Cakebread, Jane, 705
Cameron, Dr. J., 804
Carious teeth and mania, 218
Cerebral under-development in dementia paralytica, 48
" wasting in dementia paralytica, 41
" " in senile dementia, 15
Chorea, maniacal, 153
Classification of dementia paralytica, a, 50

Digitized by Google

Clinical neurology and psychiatry, 151, 593, 760
„ psychiatry, 417
„ results following injection of tuberculin, 344
„ types of dementia paralytica, 49
„ work in asylums, 122
Clouston, Dr., presentation of freedom of Kirkwall to, 802
„ „ retirement of, 388, 405
Colney Hatch Asylum, notes on history of, 606
Cortex cerebri, its volume and nerve-fibres, 143
Cretinism, a case of, 570
Crime, prevention of, 307
Crimes and offences, 82
„ and petty offences, statistics of, 85
Criminal anthropology, 70
„ law in relation to free will and responsibility, 77
„ lunacy in the Punjab, 362
„ lunatics, protection against, 768
„ „ sequestration of, 419
„ physiognomy, 69
„ responsibility, test of, 289
Criminology, 582

Deafness as a cause of dementia, 277
Death-rates in mental diseases (including and excluding dementia paralytica), 32
Degeneracy, 72
„ of cerebral vessels and senility, 4, 12
Degeneration in families, 396
Delusional disorders in the aged, 505
Dementia, 151
„ amentia and, 1, 264, 433
„ excess of intra-cranial fluid in, 13
„ following epilepsy, 434
„ following sense deprivation, 269
„ paralytica, 22
„ „ bacillus paralyticans in, 24
„ „ cerebral under-development in, 48
„ „ classification of, 50
„ „ heredity in, 26
„ „ juvenile, 51
„ „ morbid anatomy of, 37
„ „ syphilis as cause of, 6
„ præcox, 661
„ „ the question of, 651
„ „ and mental degeneracy in Syria, 511
„ progressive and secondary, 2
„ „ senile, 10
„ special varieties of, 265, 434
Desire, physical basis of, 629
"Diaschisis," 147
Digestion in mania, 219
Divisional meetings, 180, 424, 606, 799
Dreams, erotic, 755
Dualism, 620

Education in mental disease, 578
Epilepsy, alkalinity of blood in, 598
„ late, 151
„ lumbar puncture in, 763
Epileptic fits, thrombotic origin of, 638
Epileptics, insane, treated under hospital principles, 518
Erotic dreams, 755
Eugenics, national, and biometrics, 71

Digitized by Google

Female suffrage, 579
Feeble-minded, report of Commissioners on, 747
Free will, criminal law in relation to, 77
Frontal gyrus, cases of destruction of, 597

Gaskell Memorial Fund, 783
General paralysis, 22
" " a bulbous form of, 760
" " Have the forms altered? 761
" " in father, mother, and son, 562
" " influence of morbid heredity in, 461
" " without mental symptoms, 54
Glossolalia, 590, 756

Hæmatogenous lesions of the spinal cord, 561
Hallucinations, nature of, 757
Hallucinations, visual, in hemianopsia, 154
Hebephrenia, 654
Heredity, morbid, in general paralysis, 416
Homo-sexuality, 588, 753
" diagnosis of, 756
Hyoscine hydro-bromide in status epilepticus, 98, 100
Hypnotism and psycho-therapy, 751
Hysteria, Babinski's conception of, 186
" definition of, 757
" Is it curable? 758
Hysterical paralysis agitans, 760

Idiocy, paralytic amaurotic, 420
Incipient insanity, treatment of, 119
Indirect action of toxines, 3
Industrial drinking, 137
Inebriety, some aspects of, 704
" treatment of, 710, 732
Inquisition in lunacy, an, 575
Insanity and allied neuroses, 134
" increase of, in England, 123
" " in Ireland, 128
" " in Scotland, 125
" in Jews, 528
Insane, boarding out of, 532
" epileptics treated under hospital principles, 518
" menstruation in, 116
International Congress, Amsterdam, 195
Intra-cranial fluids in dementia, excess of, 13
Iodides in stupor, 767

Jahrbuch für sexuelle zwischenstufen, 753
Jews, insanity in, 528, 767
Judicial and penal reform, 320
Jurisprudence and penology, 313
Juvenile dementia paralytica, 51
" general paralysis, three cases of, 112

Katatonia, 654

Language, mechanism of, 272
Lesions of central nervous system, loss of function following, 146
Leucocytosis in acute mental disorders, 669
Life of asylum officials, 691
Longitudinal inferior bundle, 144

Digitized by Google

Lucretius, epicurean and poet, 138
Lumbar puncture, 587, 599, 763
Lymphogenous lesions of the cord, 560

Magnan, Dr., 803
Mania, acute, following general anæsthesia, 118
,, acute, furious, in cerebro-spinal meningitis, 734
,, bacillus coli and, 220
,, the blood in, 227
,, carious teeth and, 218
,, circulatory system in, 220
,, symptoms and ætiology, 207
Maniacal attacks in the aged, 501
,, chorea, 153
Manual for nurses, 395
Maudsley, Dr., and the metropolitan hospital for mental diseases, 389
Mechanism of language, 272
Medico-legal cases:
King, William Henry, an inquisition in lunacy, 575
Otley murder, the, 737
Rex *v.* James Jefferson, 740
Thaw case, 372
Medico-Psychological Association:
Presidential address, 619
Report of meetings, 179, 422, 604, 780
Melancholia, onset of, 357
Memory, physical basis of, 622
Menstruation in the insane, 116
Mental disease, education in, 578
,, disorder in advanced life, pathology and treatment of 500
,, recreations of the mental nurse, 490
,, therapeutics, 391
Mercier, Dr., induction of, as President, 794
Migraine, psychical phenomena in, 595
Mind, physical basis of, 619
Ministry of national health, 120
Moorcroft, a short account of, 181
Monism, 620
Morison lectures, 207
,, ,, summary of, 226, 244, 260
Morphinomania, treatment of, 727
Motor apparatus, double, in the brain, 144
Multiple sclerosis, early diagnosis of, 151

Narcolepsy, a case of, 107
,, literature of, 109
National health, ministry of, 120
Neurasthenia and general paralysis, 762
Neurology, 143
Neologisms in nomenclature, 657, 667
New Zealand, nursing examination in, 428
,, ,, report on mental hospitals of, 199
Norman, Dr. Conolly, 203, 387
,, ,, ,, memorial, 582, 803
Notices of meetings, 200, 431, 617, 808
,, by the registrar, 429, 804
Nursing certificate, recommendation *re*, 785
,, examination in New Zealand, 428

Obituary.—Cameron, Dr. John, 804
Norman, Dr. C., 203, 387
Macleod, Dr., 425
Wilson, Dr. G. R., 426

Digitized by Google

Obituary, references, 605
Occupation therapeutics in mental disorder, 765
Onset of melancholia, 357
Open-air rest treatment of insanity, 105
Opsonic index to various organisms in control and insane cases, 57
Optic tract, entrance of, into cortex, 146
Organic change and feeling, 589
Orientation, reversed, a case of, 594

Paranoia, chronic, and melancholia, 760
Pathology of insanity, 420, 598
" " progressive senile dementia, 12
Pellagra and psychosis, 409
Penal reform, summary of, 318
" systems in relation to recidivism, 291
Persecution, delusions of, 762
Philosophy of psychiatry, a, 473
Phthisis in the insane in Ireland, 130
Physical basis of mind, 619
Physiological psychology, 150, 588, 755
Physiognomy, criminal, 69
Pituitary body, tumour of, 153
Pleasure and pain, 635
Post-operative insanity, emotional factor in, 418
Prefrontal cortex, 448
Presidential address, 619
Prison systems on the Continent, 303 *et seq.*
" " in Great Britain and Ireland, 293
" " " United States of America, 299
Progress of psychiatry:
America, 399
Belgium, 405
France, 407
Germany, 410
Italy, 412
Spain, 415
Progressive and secondary dementia, 2
" senile dementia, 10
" " " pathology of, 12
" " " symptomatology of, 19
Psychasthenia and delusions, 593
Psychical rigor, 358
Psychiatry, a philosophy of, 473
" clinical, 417
" teaching of, 550
Psychology, 752
" of alcoholism, 750
" of folk lore, 150
" of thought, 759
Psycho-therapy, 489, 753
Pulse rate in mania, 221
Punjab asylum, criminal lunacy in, 362

Quantitative psychology, 591

Recidivism, 68, 289
" ætiology of, 290
" causation of, 73
" its relation to lunacy, 91
" penal systems in relation to, 291
Reports, asylum, issued in 1907, 157 *et seq.*
" " " 1908, 768 "
" of the Commission on Care of the Feeble-minded, 747

Digitized by Google

Reports of the Commissioners in Lunacy for England, 123
" of the General Board of Commissioners for Scotland, 125
" of the inspectors of lunatics (Ireland), 128
" on mental hospitals (New Zealand), 199
" of Special Committees, 789
" of Standing Committees, 784
" Treasurer's, 781
Research work in asylums, 746
Resistances in brain work, 592
Responsibility, 155
Rest treatment of acute insanity, 105
Reversed orientation, 594
Rheumatism and insanity, 59, 209
Rutherford, Dr., retirement of, 389

School hygiene, second international congress on, 426
Senile dementia, regions of cerebral wasting in, 16
Senility and degeneration of cerebral vessels, 4
Sensation, physical basis of, 624
Sexual ætiology of neuroses, 588
" hygiene in France, 155
Sociology, 155, 767
Somnambulism, hysterical, arson in, 152
"Speaking with tongues," 756
Spirochæta pallida, 23
Spinal cord, histology of some toxic lesion of, 560
" fluids in nervous diseases, 599
Statistical notes on criminal lunacy in the Punjab, 362
Statistics, note on, 581
Status epilepticus and its treatment, 94, 522, 524
Surgical treatment of the insane, 764
Syphilis as a cause of dementia paralytica, 6
Syria, dementia præcox and mental degeneracy in, 511

Tabetic general paralysis, 53
Teaching of psychiatry, 550
Test of criminal responsibility, 289
Thaw case, 372, 403
Thomson's, Dr., motion *re* teaching of psychiatry, 791
Thought, physical basis of, 625
" psychology of, 759
Thrombotic origin of epileptic fits, 638
Toxines, indirect action of, 3
" vascular and neuroglial changes following action of, 5
Tic, 587
Timidity in psycho-neuroses, 592
Treasurer's report, 781
Treatment of insanity, 105, 119, 418, 763
Trinitrine in mental disorder, 418
Tuberculin, clinical results following injection of, 344

Unity of insanity and its bearing on classification, 328

Will, 626

Xenoglossia, 591

Digitized by Google

Part II.—ORIGINAL ARTICLES.

Baird, Dr. H., some observations on insanity in Jews, 528
Baugh, Dr. L. D. H., observations on insane epileptics treated under hospital principles, 518
Bolton, Dr. J. S., amentia and dementia: a clinico-pathological study, 1, 264, 433
Brown, Dr. R. D., a case of narcolepsy, 107
Brown, Dr. R. C., the boarding out of the insane in private dwellings, 532
Bruce, Dr. L. C., the symptoms and ætiology of mania: the Morison lectures, 207, 227, 245

Drapes, Dr. T., the unity of insanity and its bearing on classification, 328

East, Dr. G. R., acute mania following general anæsthesia, 118
" " a case of cretinism, 570

Hart, Dr. B., a philosophy of psychiatry, 473

Jones, Dr. R., the mental recreations of the mental nurse, 490
" " the question of dementia præcox, 651

Leeper, Dr. R. R., of the onset of melancholia, 357

McDougall, Dr. A., on the principles of the treatment of epilepsy, 718
McDowall, Dr. C. F. F., three cases of juvenile general paralysis, 112
" " general paralysis in father, mother and son, 562
" " leucocytosis: its relation to and significance in acute mental disorders, 669
Mackenzie, Dr. T. C., menstruation in the insane, 116
Mercier, Dr. C., the presidential address, on the physical basis of mind, 619

Norman, Dr. Conolly, obituary of, 204

Orr, D., and Rows, R. G., Drs., some points in the histology of lymphogenous and hæmatogenous toxic lesions of the spinal cord, 560

Raffle, Dr. A. B., some notes on status epilepticus and its treatment, 94
Robertson, Dr. A., observations on the less severe forms, pathology and treatment of mental disorder in advanced life, 500
Robertson-Milne, Major C. J., statistical notes on criminal lunacy in the Punjab asylum, 362

Shaw, Dr. C. J., clinical results following the injection of tuberculin, 344
" " observations on the opsonic index to various organisms in control and insane cases, 57
Somerset, Lady H., some aspects of inebriety, 704
Strangman, Dr. Mary S. P., the atropine treatment of morphinomania and inebriety, 727
Sturrock, Dr. J. P., acute furious mania in cerebro-spinal meningitis, 734
Sutherland, Dr. J. F., recidivism regarded from the environmental and psycho-pathological standpoints, 68, 289

Thomson, Dr. D. G., the teaching of psychiatry, 550
Thwaites, Dr. H., dementia præcox and mental degeneracy in Syria, 511
Turner, Dr. J., some further observations bearing on the supposed thrombotic origin of epileptic fits, 638

Urquhart, Dr. A. R., dementia præcox, 661

Wigglesworth, Dr. J., on the treatment of cases of acute insanity by rest in bed in the open air, 105

Digitized by Google

Part III.—REVIEWS.

Bateman, Sir F., and Rye, W., The history of the Bethel hospital at Norwich, 395

Cutten, G. B., The psychology of alcoholism, 750

Denny and Camus, P., Drs., The intermittent psychoses. Maniacal Depressive Insanity, 585

Forel, Dr. A., Hypnotism or suggestion and psycho-therapy, 751

Hirschfeld, Dr. M., Jahrbuch für sexuelle zwischenstufen, 753

Jones, Dr. R., A text-book of mental and sick nursing, 393
Judd, C. H., Psychology, 752
Jung, C. G., The physiology of dementia præcox, 584

Lange, Dr. Fr., Degeneration in families, 396
Lannois and Porot, Drs., Recent therapeutics in nervous diseases, 587

Masson, Dr. J. M., Lucretius, epicurean and poet, 138
Morel, Dr. J., Manual for nurses in hospitals for mental diseases, 395
Muthmann, A., Psycho-therapy, 753

de Quiros, Señor C. B., Las nuevas teorias de la criminalidad, 582

Report of the Commissioners in Lunacy for England for 1906, 123
,, of the General Board of Commissioners for Scotland for 1907, 125
,, of the Inspector of Lunatics (Ireland) for 1906, 128
Royer, Dr. M., De l'absolue nécessité de l'assistance des enfants anormaux, 397

Savage, Dr. G. H., Insanity and allied neurosis, 134
Sullivan, Dr. W. C., Alcoholism, 136
Symons, A., William Blake, 141

Ziehen, von, Dr. Th., Die erkennung und behandlung der melancholie in der praxis, 143

Part IV.—AUTHORS REFERRED TO IN EPITOME.

Adamkiewicz, 144
Antheaume, A., and Mignot, R., 417
Arnaud, F., 593
Awtokratow, P. M., 596

Ballet, etc., 155
Bérillon, Damoglou, etc., 592
Bühler, K., 759
Burr, C. W., 154
Bychowski, 150

Claparède, E., 757
Clarke, L. P., and Atwood, C. E., 761
Cullerre, 152

Damaye, 767

Finney, J. Magee, 153
Forli, 595
Fornaca, 416
Friedländer, A., 588

Galdi, 600
Gausset, A., 760
Gualino, L., 755

Henkel, 599

Janet, P., 594

Kaes, T., 143
Kurschman, 151

La-Salle-Archambault, 144
Léal, Foveau de Courmelles, etc., 155
Leroy, B., 757
Liepmann, 597
Lombard, E., 590

Maas, O., 149
Marchand, L., and Monet, H., 151
Marchand and Nouet, 762
Masselon, R., 151
Mayendorf, E. N., 146
Milian, 760
Mohr, F., 756
Mosher, J. M., 768

Näcke, P., 419, 588, 756

Petrazzani, 762

Picqué, 764
Pieters, P., 760
Prunier, André, 603

Rémond and Voivenel, 418
Rieger, C., 592
Riklin, 150
Risch, 768
Rothmann, Max, 146

Sanna Salaris, 418
Schaffer, 420
Schuster, 153
Shepard, J. F., 589
Sichel, M., 767
Starlinger, J., 765

Terrien, 758
Tissot, F., 763
Tolone, J., 598

Van Biervliet, 591

Wehrli, 148
Witmer, Lightner, 595

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ILLUSTRATIONS.

Plates to illustrate Dr. Bolton's article on "Amentia and Dementia," 17, 47
Diagrams to illustrate Dr. Sutherland's article on "Recidivism," 86, 92
Charts to illustrate Dr. Raffle's article on "Status Epilepticus," 97, 99, 102, 103
Photograph of Dr. Conolly Norman, to face page 203
Charts to illustrate Dr. Bruce's article on "Symptoms and Ætiology of Mania," 209, 215, 216–219, 221, 223–225, 230–238, 240–243, 254–259
Plates to illustrate same, 218
Tables to illustrate Dr. Drapes' article on "Unity of Insanity," 342, 343
Plate to illustrate Drs. Orr and Rows' article on "Histology of Lymphogenous and Hæmatogenous Toxic Lesions of the Spinal Cord," 560
Charts to illustrate Dr. Turner's article on "The Thrombotic Origin of Epileptic Fits," 644–646, 649

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